Vol. XI, No. 1 January, 1935

SOAP

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SOAPS ● INSECTICIDES ● DISINFECTANTS ● POLISHES
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UNCO SIMILE

LAVENDER

"Where You Now Use Oil Lavender Fleurs Try Unco Simile Lavender"

A GENUINE shortage exists in Oil Lavender Fleurs this year. Indications are that this condition will continue indefinitely, with resulting higher prices.

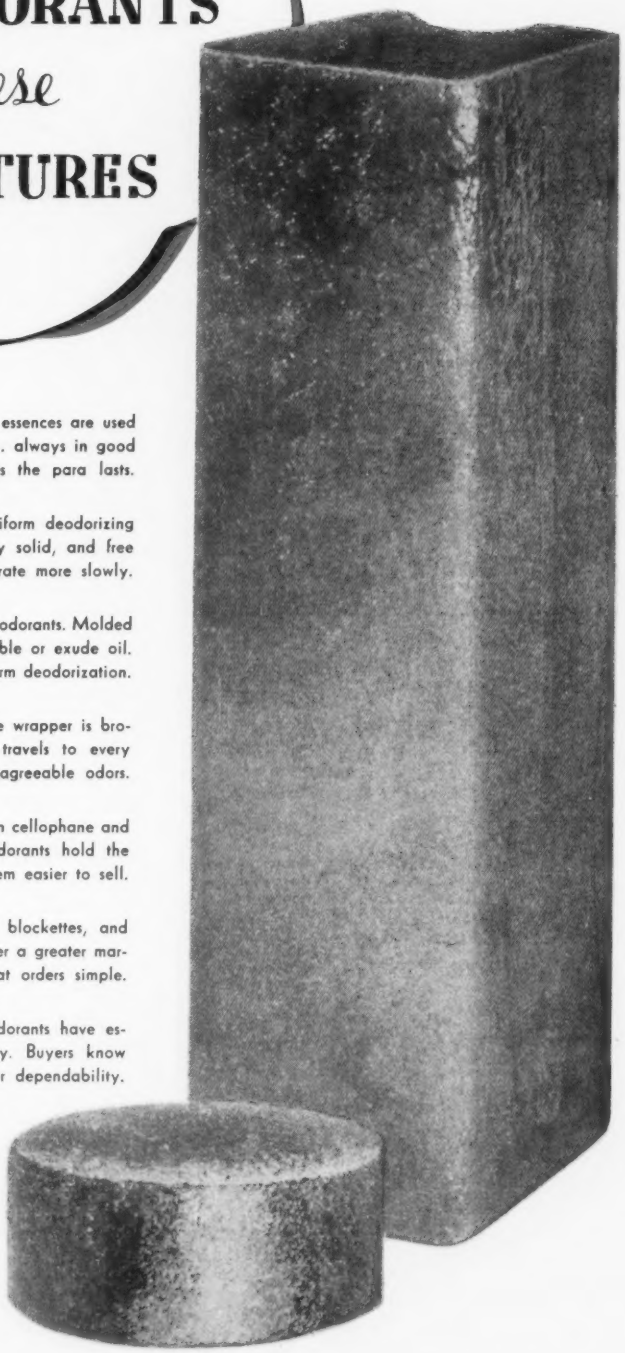
UNCO Simile Lavender is the ideal odor for Soaps. It is cheaper than Oil Lavender Fleurs U.S.P., and is not subject to price fluctuations. In addition, you are assured of a greater odor value and stability by its use.

$2.75 per pound

UNGERER & CO.

13-15 West 20th St. New York

Only FALCON DEODORANTS *possess these* 7 VITAL FEATURES



1 Perfumes. Only the finest imported perfume essences are used in Falcon Deodorants. Pleasant-smelling . . . always in good taste . . . they remain fragrant as long as the para lasts.

2 Uniform evaporation day by day gives uniform deodorizing results that can be relied upon. Absolutely solid, and free from air pockets, Falcon Deodorants evaporate more slowly.

3 Firm . . . clean . . . compact are Falcon Deodorants. Molded cold under tons of pressure, they never crumble or exude oil. Made correctly, they give long-lasting, uniform deodorization.

4 Speedier Action. As soon as the cellophane wrapper is broken, the fragrance of Falcon Deodorants travels to every corner of the room . . . overcoming all disagreeable odors.

5 Attractive Packaging. Individually wrapped in cellophane and packed in air-tight containers, Falcon Deodorants hold the customer's eye . . . a feature that makes them easier to sell.

6 Priced no higher than ordinary blocs and blockettes, and unmatched in quality, Falcon Deodorants offer a greater margin of profit to the jobber . . . make repeat orders simple.

7 Prestige. Used the nation over, Falcon Deodorants have established an enviable reputation for quality. Buyers know that the name "Falcon" is full guarantee for dependability.

Falcon Blocs and Blockettes can be had in the following odors: Cedar, Lilac or Rose. New descriptive price list sent on request. Write.

EAGLE SOAP CORPORATION

HUNTINGTON INDIANA

JUL 7 1936

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JUL 7 1936

PRODUCTS
FULD MAKES
for the
LEADERS

LIQUID CLEANERS
- Pine Scrub Soap
- Sassafras Scrub Soap
- Floor Bleach
- Rug Shampoo

OIL and SOFT SOAP
- All Percentage Oil Soaps
- Jelly Soaps

LIQUID and BASE SOAPS
- Liquid Hand Soaps (All percentages 10 to 40%)
- Shampoos
- Cocoanut Oil Base Soaps

DISINFECTANTS
- Pine Oil
- Coal Tar
- Cresol Compounds
- Chlorine

INSECTICIDES
- Roach Powders
- Fly Sprays
- Cattle Sprays
- Pyrethrum Sprays
- Moth Spray
- Sprays for Special Purpose

FLOOR WAXES and SEALS
- Self-Polishing Wax
- Liquid Wax
- Wood Seal
- Gym Seal
- Terrazzo Seal
- Wax-Var
- Paste Wax
- Dance Floor Wax

POLISHES
- Count 1234567
- Metal Polishes (Liquid, Paste & Powdered)
- Auto Polish
- Furniture Cream
- Furniture Polish
- Floor Oil

PLUMBING SPECIALTIES
- Drain Pipe Cleaners
- Liquid & Powdered Bowl Cleaners
- Tile & Enamel Cleaners
- Boiler Compounds

CLEANING COMPOUNDS
- Washing Compounds
- Window Cleaner
- Scouring Compounds
- Fabric Cleaners
- Weed Killers
- Waterless Cleaner
- Beer Coil Cleaner
- Paint & Varnish Remover

LIQUID DEODORANTS
- Chlorozit
- Formia Chloro Sprays
- Theatre Sprays
- Pine Deodorant
- Drip Machine Fluid

DEODORANT BLOCKS and CRYSTALS
- Urinal Blocks
- Deodorant Blocks 2 to 40 oz. sizes
- Deodorant Crystals

CONTAINERS
- Urinal Strainers
- Wall Containers
- Soap Dispensers

— the SAME to YOU!

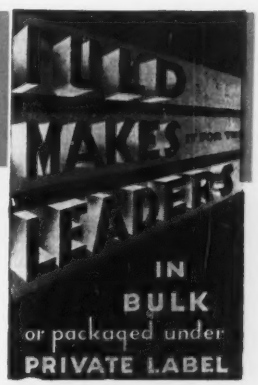
Made in colors from light gold to dark amber; coefficients, 3 to 5 inclusive, F. D. A. Staple milky emulsions free from "oily float."

Fuld products give hundreds of leading dealers a complete private label line that plays "Jingle Bells" on the cash register the whole year through.

. . . . . .

— the Same to you!

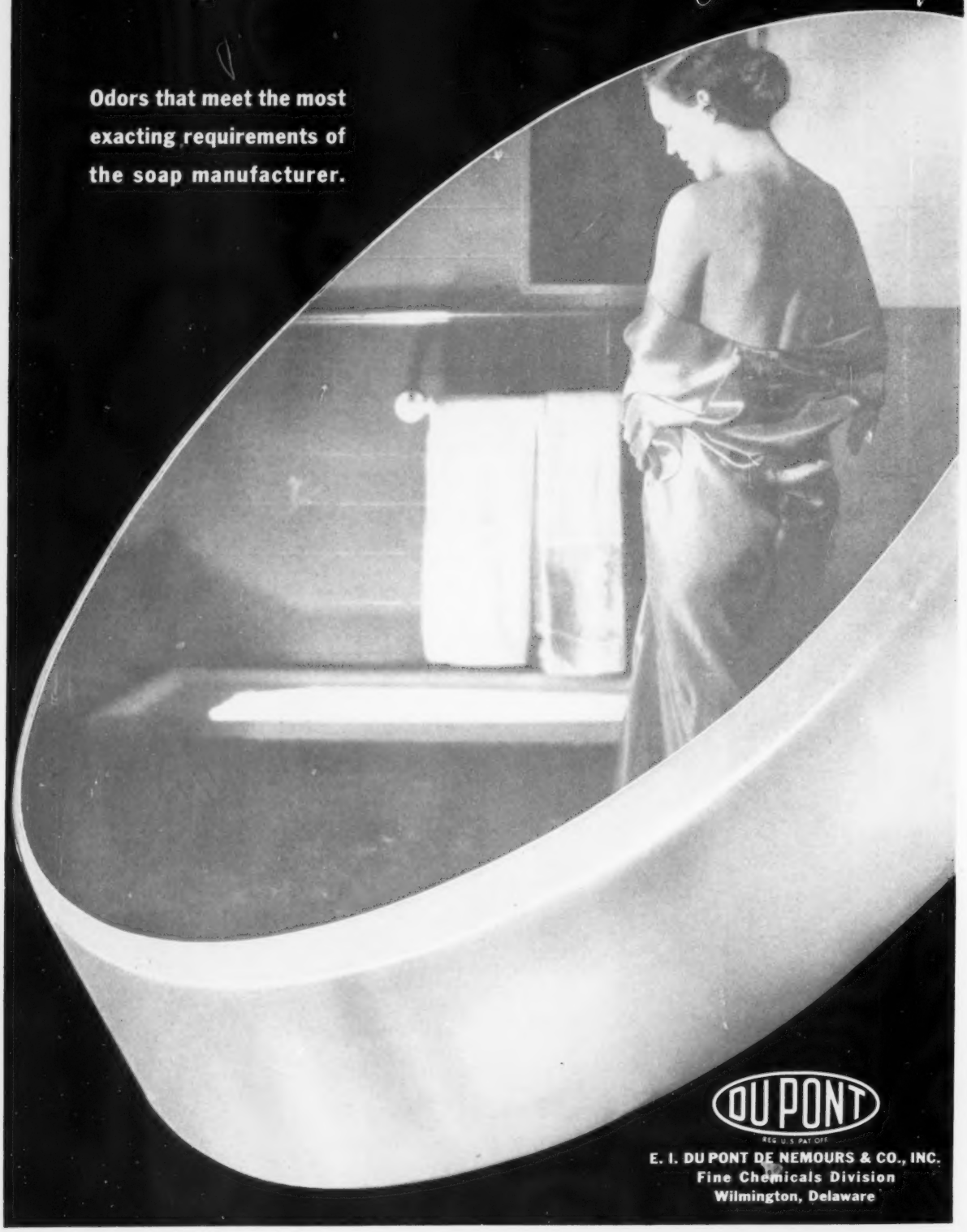
FULD



FULD BROS. INC.
2310 FREDERICK AVE.
BALTIMORE, MD.

Du Pont Aromatics for Soap

Odors that meet the most exacting requirements of the soap manufacturer.



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REG. U.S. PAT. OFF.

E. I. DU PONT DE NEMOURS & CO., INC.
Fine Chemicals Division
Wilmington, Delaware

SOAP

Reg. U. S. Patent Office

Volume XI
Number 1

January, 1935

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MEMBER AUDIT BUREAU OF CIRCULATIONS

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NRA CODE GRAPHIC ARTS INDUSTRY 1934

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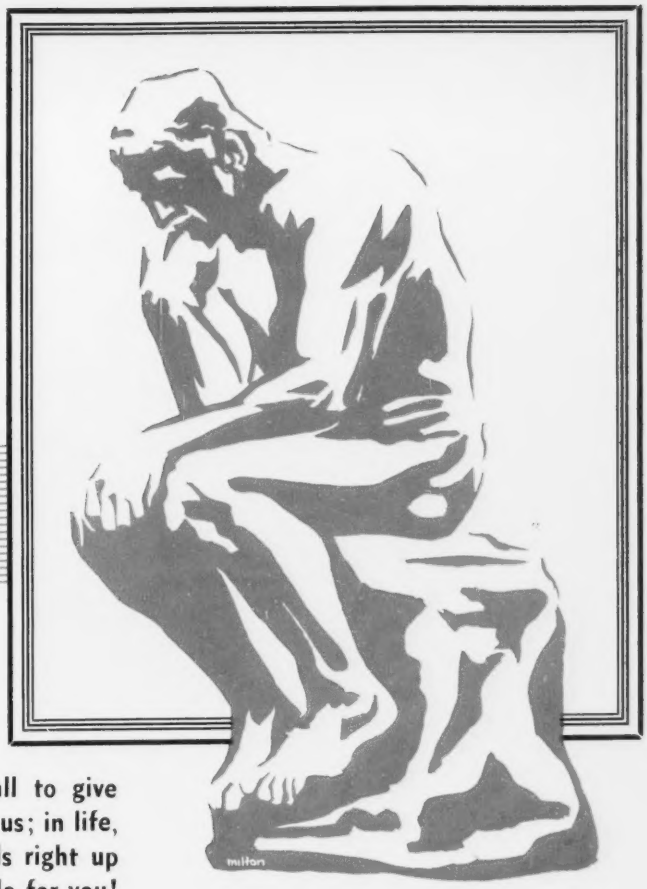
To shine up a living room table, a floor, a piece of silver or a pair of shoes requires only a few drops of polish at a time. That's the way liquid polishes and household cleaners are almost invariably used . . . and that very fact recommends the use of Anchor Amerseal Caps . . . because, besides sealing securely, these closures possess the utmost in convenience. A quarter turn and the cap is off; another quarter turn and it's back on again as tight as before. This is true even though the polish itself is inclined to cake or leave a deposit over the pouring edge of the bottle. Ask us to send you full information about the efficiency of the Anchor Amerseal for polishes, liquid waxes, cleaners and all sorts of chemical products, as well as sample caps to show you how attractive they can be when appropriately decorated.
Anchor Cap & Closure Corporation
LONG ISLAND CITY, N. Y. TORONTO, CAN.
ATLANTA • BALTIMORE • BOSTON • CHICAGO
CINCINNATI • CLEVELAND • DENVER • DETROIT
HOUSTON • LOS ANGELES • LOUISVILLE
MONTREAL • NEW YORK • PHILADELPHIA
PITTSBURGH • ROCHESTER • ST. LOUIS
SAN FRANCISCO • SEATTLE • TORONTO
ANCHOR-CAPSTAN
★ GLASS CONTAINERS ★ CLOSURES
★ SEALING EQUIPMENT
★ RESEARCH ★ PACKAGE DESIGN
5 STAR SERVICE
Anchor Amerseals

Think...



WE'VE used Rodin's "the Thinker" to symbolize the power of man's thought. And now, at the beginning of a New Year, it would be well for us all to give a thought to what 1935 has in store for us; in life, and in business. Which of course, leads right up to the Clifton PLAN, and what it can do for you! The CLIFTON PLAN offers you EVERYTHING that you require for a fast-selling, profit making line of sanitary products. Your name appears on every article . . . a great factor in re-orders from satisfied customers. Start the New Year right—let's co-operate—your profits will be larger . . . fill in the coupon attached below—NOW.

THE CLIFTON PLAN

1. Products considered above the average.
2. Prices that are always "right".
3. Attractive labels and leaflets with your imprint.

CLIFTON CHEMICAL CO. 246 Front St., N. Y.

TEAR OFF HERE

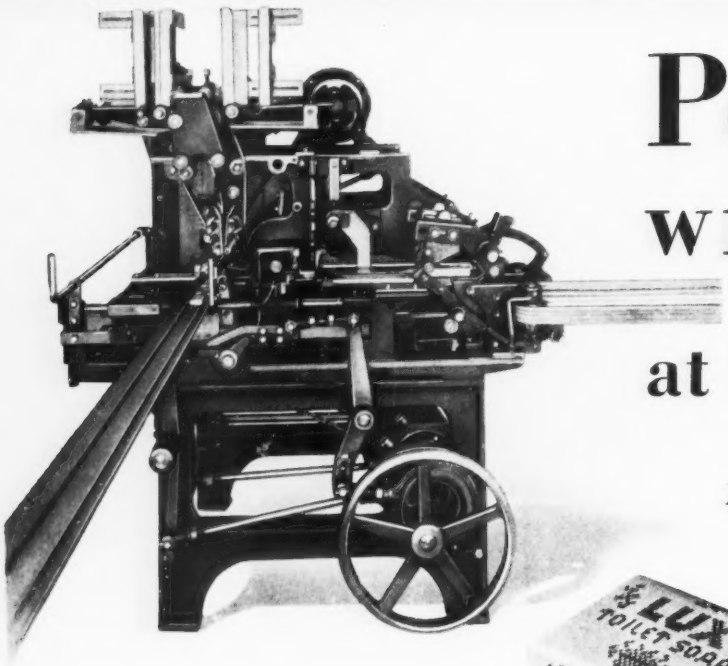
CLIFTON CHEMICAL CO., INC.
246 Front Street, New York City.

It's worth a try. . . . The items checked would probably help increase our sales. Please quote:

- ☐ Semi-Castile Liquid Soap
- ☐ Foamwel Liquid Soap
- ☐ Liquid Soap Base
- ☐ Liquid Soap Dispensers
- ☐ Cresolene Disinfectant
- ☐ Liquid Floor Oil
- ☐ Pine Scrub
- ☐ Deodorizing Cakes
- ☐ Deodorizing Blocks
- ☐ Deodorizing Sprinklets
- ☐ Wall Containers
- ☐ Metal Polish
- ☐ Spot Remover
- ☐ Moth Frost
- ☐ Rubless Wax
- ☐ Furniture Cream
- ☐ Insect Killer
- ☐ Coal Tar Disinfectant
- ☐ Pine Disinfectant
- ☐ Theatre Spray
- ☐ Shampoo Liquid and Base

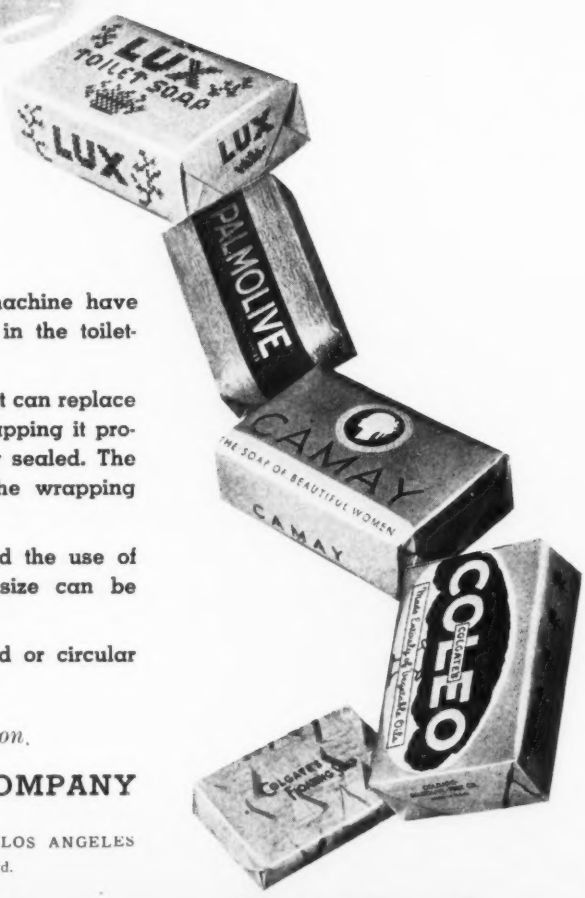
(NAME) .....

(ADDRESS) .....



Perfect wrapping at high speed

150 cakes per minute



Adjustable for various sizes

The outstanding advantages of this machine have made it the leading wrapping machine in the toilet-soap field.

With its speed of 150 cakes per minute, it can replace two of the older type machines. The wrapping it produces is flawless—smooth, tight, perfectly sealed. The surface of the soap is not marred in the wrapping process.

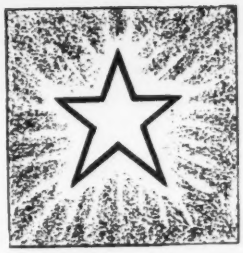
By means of adjustments provided and the use of interchangeable parts, more than one size can be wrapped on the same machine.

Can be equipped to insert a cardboard or circular between the inner and outer wrappers.

Write for complete information.

PACKAGE MACHINERY COMPANY
Springfield, Massachusetts
NEW YORK CHICAGO CLEVELAND LOS ANGELES
Peterborough, England: Baker Perkins, Ltd.

PACKAGE MACHINERY COMPANY
Over 200 Million Packages per day are wrapped on our Machines



the season's greetings

and best wishes for

1935

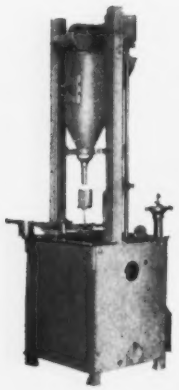
FRITZSCHE Brothers, inc.

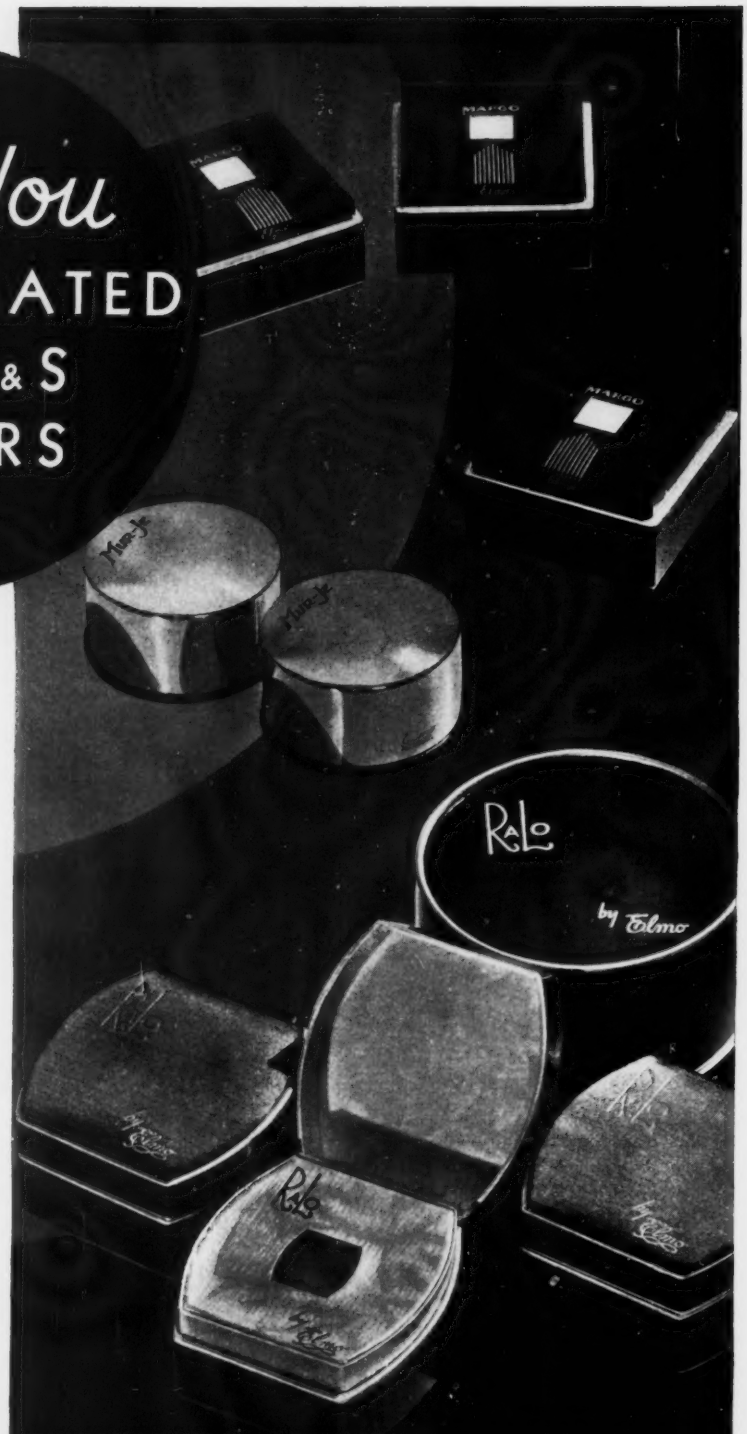
HAVE *You* INVESTIGATED THE S & S FILLERS ?

AT the plant of Elmo, Inc., Philadelphia, cosmetic manufacturers, an S & S Universal Filling Machine is used to fill a wide assortment of Elmo Powders, packaged in containers of many different shapes and weights.

Despite the relatively low cost of the S & S Universal Filler it has given long, dependable service in countless plants in every part of the world. Its smooth speed and uncanny accuracy have made it a paying proposition to large and small manufacturers alike.

It may pay you to investigate the S & S Fillers. An S & S Engineer will be glad to give you the details without obligation. Or, if you prefer, write for descriptive literature





STOKES & SMITH Co

PACKAGING MACHINERY — PAPER BOX MACHINERY

4915 Summerdale Ave., Philadelphia, U. S. A.

British Office: 23, Goswell Road, London, E. C. 1

Naugatuck *presents*

★ BRUNO COURT GRASSE FRANCE

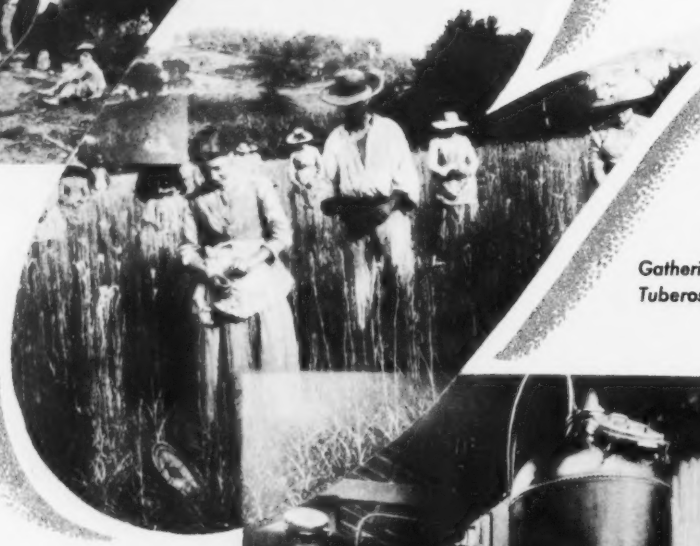
★ C. A. P. P. CASABLANCA MOROCCO

★ LABORATOIRES LOUIS BORNAND PARIS

NAUGATUCK

BRUNO COURT

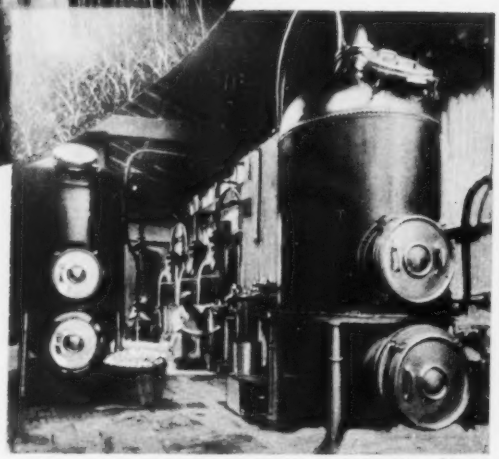
Distillation of Lavender in the Alps



Gathering Tuberoses

The history of the manufacture of perfumery, cosmetics and soaps would be quite incomplete if it did not include the progressive efforts made in obtaining the basic odors from plants and flowers cultivated on the slopes of the Alpes Maritimes. Such a record would undoubtedly include the name of Bruno Court for this house has been producing "Essences and Extractions" at Grasse, France, since the year 1812.

While their present facilities admit of the most modern method for the production of Essential Oils and the Flower Absolutes and Resinoids by the Hydrocarbon Process, they have also remained steadfast in their belief that the "old fashioned" pomades and the liquid floral absolutes made from them represents the perfume of the living flower "more faithfully." The present demand for these particular raw materials seems to confirm their opinion.



Extraction Plant

Some of their specialties include —

Essential Oils . . . Oil Lavender
Oil Geranium sur Roses
Oil Neroli Bigarade Petale

Resinoides . . . Labdanum
Oak Moss
Orris Florentine

Flower Absolutes . . . Jasmin
Rose
Violet

A complete list of Bruno Court products will be sent on request

The object of this corporation is to cultivate and produce natural perfumery raw materials of dependable quality in those Colonies so geographically situated as to assure a year round climate free from such rigorous changes that prevent a dependable harvest. This has proved to be an important factor in stabilizing prices from year to year.

With their main office at Casablanca (Morocco) they have made marked progress in acquiring large tracts of land, building distilling and extracting works and establishing their own branches in Seba-Aioun (Morocco), Labé-Nadel and Sala (French Guinea), Addis-Abeba (Abyssinia), Nossi-Bé and Kenya.

They are now producing and shipping —

ESSENTIAL OILS
- Oil Sweet Orange
- Oil Cedrus Atlantica
- Oil Ylang-Ylang
- Oil Neroli
- Oil Geranium
- Oil Petitgrain from Sweet Orange
- Oil Petitgrain from Lemon tree
- Etc., etc.

TERPENELESS OILS
- Oil Sweet Orange
- Oil Cedrus Atlantica

FLOWER PRODUCTS
- Rose (Absolute, Concrete and Otto)
- Mimosa (Absolute and Concrete)
- Karo Karoundé (Absolute and Concrete)
- Auropanax (Resinoid)

MISCELLANEOUS
- Oak Moss (Absolute and Concrete)
- Civet

We invite your inquiries and orders for C.A.P.P. products

Gathering Orange Blossoms in Morocco

Cedrus Atlantica in Morocco

Growing Roses in Morocco

C. A. P. P.

CIE. AFRICAINE DES PLANTES À PARFUM

LABORATOIRES ★ LOUIS BORNAND

Among the aromatic chemicals originally produced by Louis Bornand are —

Novotonka — true odor of the tonka bean, non-irritating.

Diasmol — an important note in natural Jasmine.

Dimethyloctanol — one of the higher notes in natural Rose.

Eholial — new aldehyde for modern perfumery.

Write for a sample of Polémonia (Bornand)

The purpose of these laboratories is to search for new and unusual aromatic chemicals and continue such investigation to include their use in combinations to produce new odor notes. They have made noticeable contributions to both the science and art of modern perfumery and their products have become outstanding.

This affiliation will enable Naugatuck Chemical to increase the number of fine aromatic chemicals now being made at their factory, and also furnish helpful information to their American customers.

Naugatuck AROMATICS

NAUGATUCK CHEMICAL . . . situated at Naugatuck, Connecticut, is representative of the finest type of research and development in many branches of the organic chemical industries.

The desire to create further uses for available intermediates and raw materials lead them into the aromatics field.

As the result of successful research and development in the field, a line of Naugatuck Aromatics is offered.

In order to put themselves in a position to supply a complete line of aromatics to American consumers, Naugatuck Chemical has arranged to complement their line with the products of these progressive foreign producers.

It has always been the policy of Naugatuck Chemical to handle the highest grade products of stabilized quality and at stabilized prices. This policy will continue.

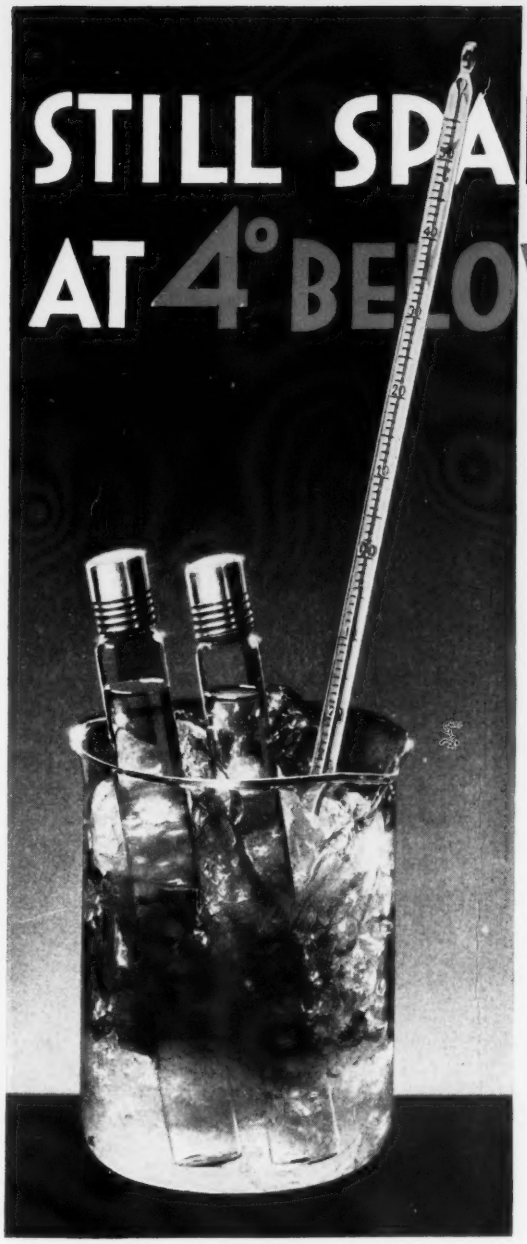
Aromatic products supplied by Naugatuck Chemical will be truthfully labelled.

Naugatuck Chemical

DIVISION OF UNITED STATES RUBBER PRODUCTS, INC.

1790 BROADWAY **NEW YORK, N. Y.**

STILL SPARKLING CLEAR AT 4° BELOW ZERO C.!



TRY this test on the liquid soap you are now buying -- particularly the concentrated (40%) which you are using as a base to produce liquids of lower soap content.

"BUCKEYE" and "GEM" concentrate liquid soaps remain absolutely clear at temperatures below zero C., lending themselves perfectly for use at all temperatures as a base in producing liquids of lower soap content.

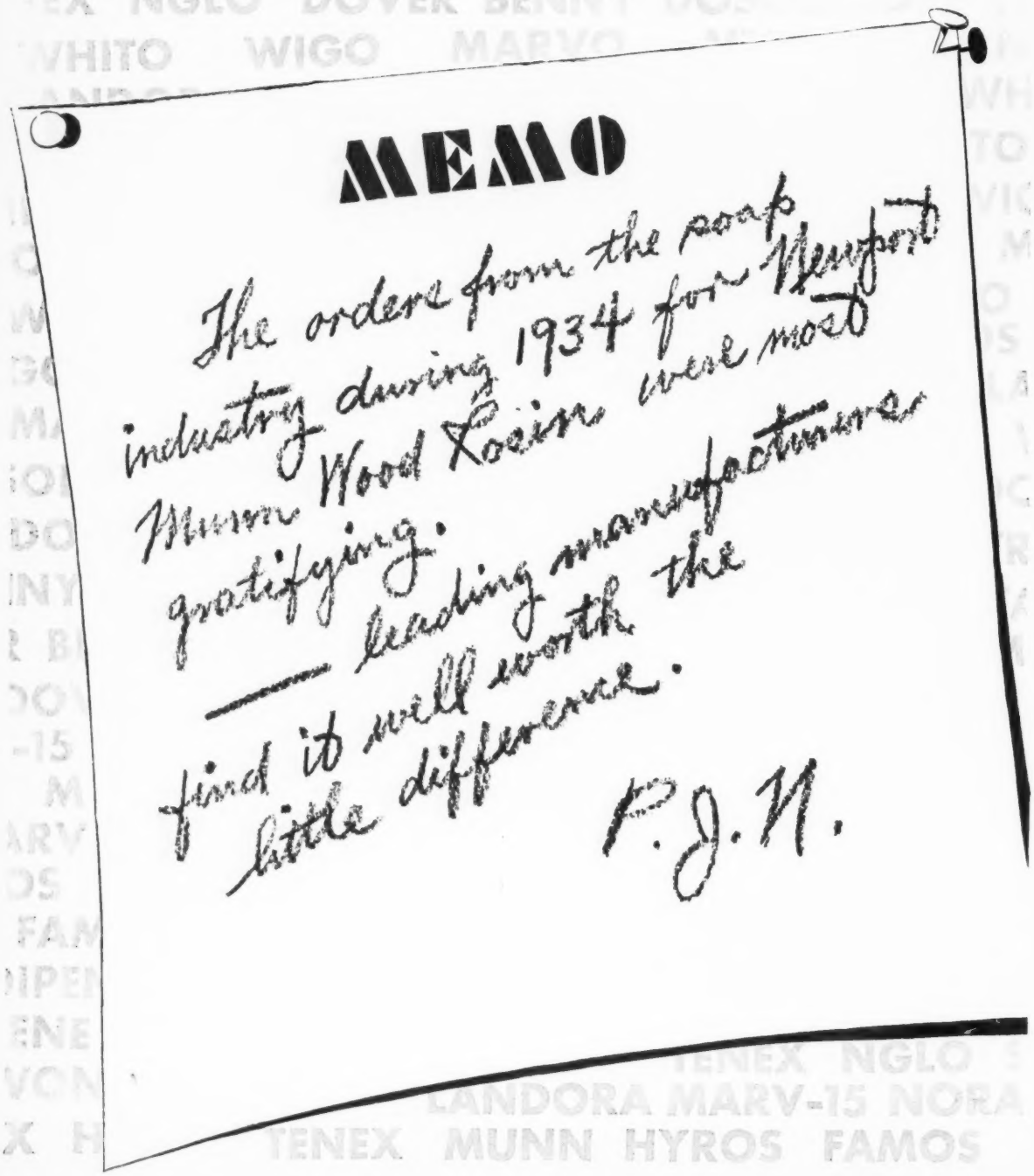
Just dilute them with distilled water --- no need whatever for any filtering.

Send for samples and prices. No obligation.

THE DAVIES-YOUNG SOAP CO.
Dayton, Ohio

"BUCKEYE" CONCENTRATE
and
"GEM" CONCENTRATE
Liquid Soaps

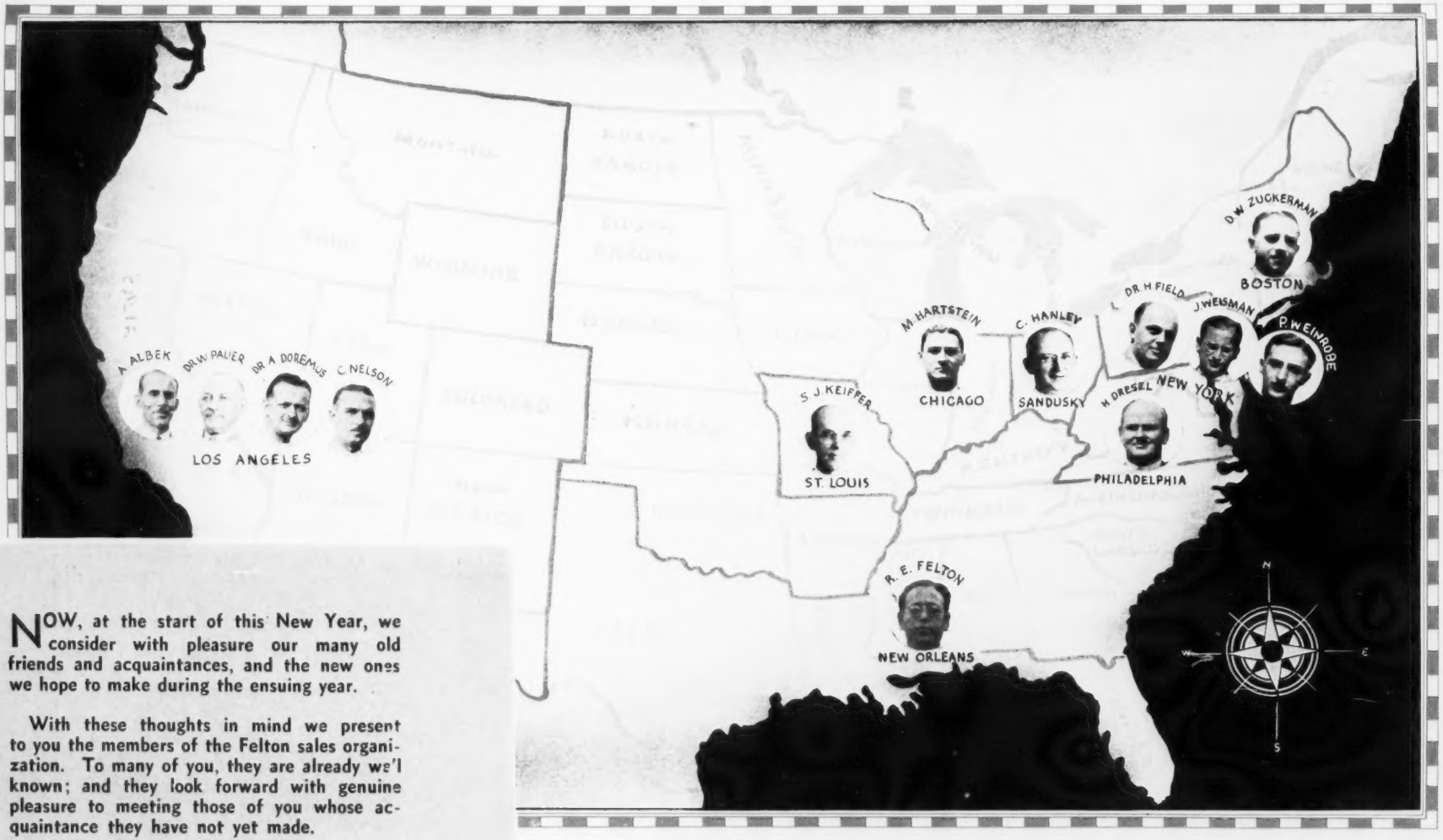
Copyright 1934
By The Davies-Young Soap Co.


MEMO
The orders from the soap industry during 1934 for Newport Munn Wood Rosin were most gratifying.
— leading manufacturers find it well worth the little difference.
P. J. M.

Let Newport help you make better soap in 1935!

GENERAL NAVAL STORES COMPANY, INC.

Address Main Office: *230 Park Avenue, New York City* NEWPORT Plants: *De Quincy, La.; Pensacola, Fla.; Bay Minnette, Ala.*



NOW, at the start of this New Year, we consider with pleasure our many old friends and acquaintances, and the new ones we hope to make during the ensuing year.

With these thoughts in mind we present to you the members of the Felton sales organization. To many of you, they are already well known; and they look forward with genuine pleasure to meeting those of you whose acquaintance they have not yet made.

These men, all possessing wide experience in the aromatic, perfume and flavor fields, are ready to serve you at all times, to the best of their ability. They are prepared to assist you with your problems, supported by the comprehensive technical facilities of the Felton Chemical Company. We hope you will let them cooperate with you.

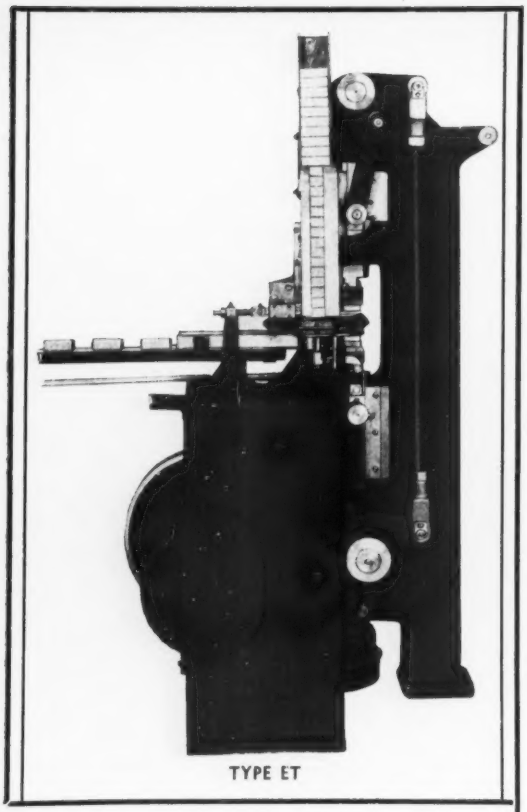
FELTON CHEMICAL COMPANY

INCORPORATED

Manufacturers of AROMATIC CHEMICALS, NATURAL ISOLATES, PERFUME OILS, ARTIFICIAL FLOWER AND FLAVOR OILS

Executive Offices and Factory: 603 JOHNSON AVE., BROOKLYN, N. Y.

Boston, Mass. 80 Boylston St. | Philadelphia, Pa. 200 So. 12th St. | Sandusky, Ohio 1408 W. Market St. | Chicago, Ill. 1200 N. Ashland Ave. | St. Louis, Mo 245 Union Blvd. | New Orleans, La. Balter Bldg. | Los Angeles, Calif. 515 So. Fairfax Ave.



TYPE ET

Brine and other lubricants discolor soap cakes. On most soaps, the Jones Toggle Press requires no pressing lubricant. Result: *No discoloration of cakes.*

"WORN DIES CAN'T DO GOOD PRESSING"

JONES toggle press conserves the life of dies, thereby doing better pressing and saving die makers' bills for new dies and repairing old ones.

A WORN geneva destroys dies. The geneva on the Jones Toggle Press runs in an oil chamber, avoiding its wear by constant, perfect lubrication and entirely preventing wear from gritty dust and other substances.

THE press is specially designed to bring the die box and dies into perfect relation so they do not wear. Complete absence of vibration also removes a source of die wear.

JONES new toggle operated presses more than *treble* the productive life of dies.

For DIE ECONOMY,
BETTER LOOKING,
MORE SALEABLE SOAP

replace your old presses with

JONES NEW TOGGLE PRESSES

R. A. JONES & COMPANY, Inc.

P. O. BOX 485 CINCINNATI, OHIO

The Standard *Constant Motion Cartoner* packages bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds, and inserts direction sheets and corrugated board liners with the loads

NRA CODE GRAPHIC ARTS INDUSTRIES 1934

SOAP

Volume Eleven **Number One**

EDITORIAL

AS business for 1935 gets under way, one thing seems to stand out above all others, —above government spending, above business improvement and the opportunity for better profits, and above an uncertain monetary policy, —the prospect of a year burdened with legislation which will affect in various and sundry ways every firm in the country. In addition to Congress, already in session and leaning heavily to the "left", forty-four state legislatures will meet this year. Many of them carry majorities which are more radical than they are liberal. By a good number of these legislators,—in too many instances ignorant and with a hopelessly restricted view,—business is looked upon as that ogre, the employer of labor, and a just object for every type of tax and legislative restriction.

Forty-four state legislatures and Congress in session! If that statement in itself does not call for cool, level-headed preparation by business generally,—then nothing will. It calls for business to get into the activities of its trade associations now, for in strong trade groups there is greater protection than anywhere against unfair and unwise restrictive laws. It calls for business men in every state to meet and know their state legislators and their congressmen, so that when the time comes, these legislators will listen and heed the voice of the manufacturer and his distributors.

Of what use will it be to increase your sales in 1935, if you are hampered and restricted at every turn by a barrage of laws which in the end will turn these profits into losses? Put yourself in a position now where you can talk to your law makers as man to man when the time comes. Get under the umbrella of your trade association now so that you will be protected by prompt and expert advice when and if the legislative deluge arrives,—and our guess is that it will arrive.

—— ♦ ——

ANOTHER offering of cheap Japanese soap has recently been made by certain leading department stores. The quality is poor and the odor is worse, but the price is low, and apparently that is all that seems to count. While American soap makers are paying some six cents for tallow and coconut oil and higher wages under the soap code, this Japanese soap comes into the market, duty paid, at prices under the cost of domestic manufacturers. Of course, the quantity is as yet small compared to general soap sales, but nevertheless, it shows the possibilities under the present American labor and raw material set up.

—— ♦ ——

SOAP costs today are just forty per cent higher than they were a year ago. Raw materials and labor costs are up just that much. In some instances, soap prices have been advanced proportionately, but on the whole, they have not. If the level of all soap prices is fifteen per cent higher than a year ago, it is a liberal estimate. In tallow chips, the market has responded quite well to the movement in raw material. In laundry bars, prices are up well from the low. In the soap specialties, however, competition continues to hold prices far below the level warranted by costs. In branded soap products, prices generally have not gone up to any great extent. Of course, they did not go down quite as far as other items, and there is the ever present thought of private brand competi-

tion. Private brand toilet and laundry soaps are still being sold by some manufacturers at what appear to be ridiculously low levels considering the raw material situation.

In brief, this is the cost versus selling price situation in soaps today. Those soap manufacturers who have not refigured their complete costs in the very recent past in the light of raw material replacement figures might do so to advantage. We still insist that current replacement costs represent the only sensible basis for the calculation of prices.

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ONE of the leading American manufacturers of soaps, shave products, and the like, is now marking every carton of its drug store line with the retail price. Unquestionably this move is aimed to please the retailer,—to permit him to make a definite margin on every sale. But we wonder if the rank and file of retailers will be pleased. For so many years, they have been in the habit of selling an item marked 50c for 39c, and the public has become accustomed to this, that we believe there may be some unfavorable reaction when an item marked 50c is actually sold for 50c. Is not the public liable to suspect that the retailer is raising prices unduly? At any rate, the manufacturer in question will soon know one way or the other.

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PROPAGANDA from so-called consumers' protective leagues is being fed to the public of late in larger doses than for some time past. Through the medium of books, house organs of consumer organizations, and some general magazines, the idea continues to be spread about that most manufactured products put out under brand names are being sold at fabulous profits and that the public thereby is being milked right and left. In almost any gathering, public or private, a reflection of this propaganda can be noted. If the product be something of a chemical nature,—a cosmetic, a soap, a disinfectant, a polish, or the like,—just so long as it is branded and advertised, the idea is about that it must be mostly advertising bunk, sold at a fancy price primarily to hoodwink the public. The prevalence of the idea that ninety per cent of the cost of a branded item is in its advertising bill, is quite amazing. The number of people who think that through the magic of chemistry something can be made "for a few pennies," advertised at great cost, and sold for a dollar per package, is large.

In isolated cases, we will grant that these consumers' protective leagues are right, but in the general run of manufactured products, they are wrong. Competition has seen to that. Nevertheless, slowly but surely they are selling their ideas to the public. Now is the manufacturer's turn to tell his side of the story. His is a strong, convincing story, but it is about time that he started telling it.

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BEFORE a recent meeting of proprietary manufacturers in New York, a well-known manufacturer and former president of the Association of National Advertisers stated: "Unless we can get reasonable self-regulation of advertising, the effectiveness of all advertising will be jeopardized." He went on to mention the unbridled license of a minority of advertisers, and the avoidance of drastic government censorship by a system of self-control. In short, he painted the picture just about as it is. He sounded a timely warning, but one, withal which has been sounded time and again with only small effect.

For the soap and associated industries, this plea for better control of advertising should apply at least in part. We will grant that there is a vast difference between advertising that a soap will make one beautiful and advertising a cure for tuberculosis. The first is ridiculous, but harmless. The second is vicious and harmful. Nevertheless, there is no excuse for soap manufacturers even to lay themselves open to accusations of deliberate untruthfulness, and less excuse for copy which makes thinking people laugh. Although much of this questionable copy has been instrumental in pushing up soap sales,—especially toilet soap sales,—could not the same result be obtained with copy minus the nonsensical twaddle?

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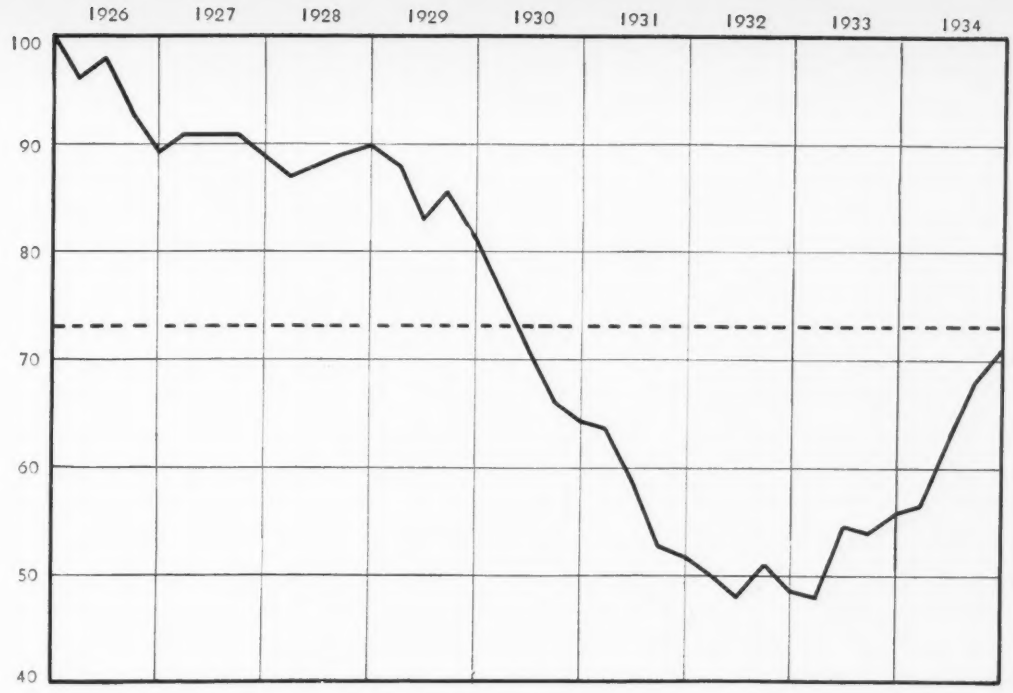
ONCE again, we must warn those soapers who are not paying their excise taxes on coconut oil, palm oil, etc., in full according to the Internal Revenue Bureau interpretation of the law. If there is a divergence of views as to what constitutes "first processing," it must await a definite decision of the courts. It may be expensive at a later date for those who withhold full payment of the tax now.



Weighted Index of Soap Raw Material Prices. Broken line represents ten year average.

The Outlook for 1935

The Present Situation in Raw Material and Soap Prices Viewed With an Eye to the Future

PRICES of soap raw materials scored a surprising advance in 1934, jumping approximately thirty per cent from their average at the beginning of the year to stand, as 1935 begins, practically even once more with the general average of prices for the past nine years. The principal part in the advance was assumed by the oils and fats. With the imposition of a three cent excise tax on two important soap oils, coconut and palm, an upward push was given to the entire oil and fat list. The result was that by the end of the year soap oils, and edible oils as well, had registered advances which in some cases ranged as high as three hundred per cent.

A factor in the advance of equal importance with the excise tax was the growing shortage of oils and fats in the world market. This market is not one which can be adjusted on short notice to the changes in demand and price, there always being a lag of several years in this adjustment. The result is that only now is the supply side of the market bringing itself into line with the abnormally low prices and the glutted market of two and three years ago. The danger, of course, is that having started to make the necessary adjustments to meet that past condition, the oil and fat producing industries may be slow to meet an expanding demand from consuming industries, with the result that prices may be pushed equally far out of line on the high side.

Soap raw material prices are even farther above the low levels set in 1932 and early 1933, the spread between present markets and the low point being approximately forty per cent based on price records compiled by SOAP. With the industry's labor costs also substantially increased by the NRA Soap Code provisions, and taxes showing a tendency to mount alarmingly as a result of heavy governmental spending, it is interesting to study what the industry is doing to compensate for these higher costs in the way of adjusting its selling prices. A brief survey of the situation indicates that the more ably managed companies have been awake to the danger inherent in the sharply increased costs and have made prompt attempts to advance soap selling prices. That they have not been more uniformly successful in carrying out this policy may be laid at the doors of their short-sighted competitors. Some soap makers who are still working on low-priced inventories seem insistent on ignoring the

fact that oils and fats have advanced almost one hundred per cent. The result in some cases has been that producers who know their costs, and have advanced their selling prices accordingly, have repeatedly lost business to concerns who are still doing business on the basis of former abnormally low cost. Present indications are that by the end of the first quarter of 1935, however, or by the end of the second quarter at the latest, all of these low-priced inventories will have been exhausted and all factors will have to readjust their selling prices to the present level of raw material prices.

THAT the more far-sighted companies recognize the necessity of getting higher prices is well borne out by what has happened to prices on the big-bulk highly-competitive items such as tallow chip soap and laundry bars. Tallow chip, which sold in car lots as low as 4½c per pound several years ago, is now quoted at 7⅛c per pound in bulk, ranging up to 7¾c for single barrel lots. The most recent advance of a half-cent per pound came early in January. The sixteen-ounce laundry bars, which at the low point sold as far down as $1.50 per box, now are quoted at $2.15. Packaged soaps and wrapped bars and cakes have not shown nearly as much of a tendency to advance as the unbranded bulk products, but this is not remarkable as they were not pushed nearly as low as the bulk products in the cut-price soap war of the past few years.

It is in the specialties that most difficulty has been encountered in getting higher prices. One maker of shampoos and liquid soaps reports that he has made what could normally be considered very moderate readjustments in his prices, based on the advance in his raw material costs, and has lost business in adhering to these higher prices. Shampoo, 40 per cent, for instance, was advanced from 40c to 50c, while 20 per cent liquid soap was advanced from 24c to 30c per gallon. Some soap makers, he reports, are still selling at the old "depression prices." Of course there has always been a somewhat bigger margin in the specialty field, but nevertheless it seems obvious that specialty prices must advance along with staples in view of the tremendous increase in raw material and labor costs. The concerns who continue to sell at the 1933 levels appear merely to be trying to ignore the raw material advance.—a pleasant aloofness from actuality which cannot long continue.

BEFORE we can attempt any forecast of the market for 1935, it will be necessary to check up a little more specifically on developments since the beginning of 1934. The price chart illustrated on the preceding page is made up from price records which have been collected by SOAP over a ten-year period, calculations being based on price movements of a representative group of thirty oils, fats, chemicals, essential oils and perfuming materials, weighted according to their relative importance in tonnage and dollar value to the soap maker. The oil and fat group is given extra weight in making up the averages, since oils and fats are such important items in the total of the soap maker's raw material costs. The price level for January, 1926, is taken as the base or 100 point, and the indices for the other months express the relation of prices at those times to prices quoted in January, 1926. Over the period it is apparent that soap raw material prices have fallen approximately twenty-nine per cent. When compared with the ten-year average, however, current prices are found to be only two points lower than the average for the entire period, which of course included the 1925-1929 high-price era.

It is interesting to note that with the sharp advance in the oil and fat group this past year, the oils and fats have been brought back into the same proportionate relation to the chemical and perfuming materials groups which they occupied ten years ago. At the low point in 1932 oil and fat prices were down to less than forty per cent of the January, 1926, figures, while the chemical and perfuming groups never dropped much below the seventy mark. During late 1933 a few moderate advances in chemical and perfuming material prices brought these groups up to slightly above the seventy mark, where they have stayed through 1935. The oils and fats, on the other hand, were lagging far behind these two other groups at the start of 1934. Thus the startling advance in oil and fat prices during 1934 has not pulled them out of line with other soap raw material prices, but has merely restored the original balance, with all three groups now closely lined up around the seventy level as compared with the January, 1926, mark of 100.

To inquire a little closer into the spectacular advance in oil and fat prices, take a close-up of the three most important soap raw materials. Coconut oil at the beginning of the year was priced at about 3c per pound in tanks. It settled to a low of 2½c at one point in the early months, but has been pointing upward since then. It is quoted currently at about 4c, which with the addition of the 3c excise tax makes the total cost to the soap maker in the vicinity of 7c per pound, quite an advance from the 3c price of a year ago. The range on palm oil is from around 2c per pound at the beginning of the year to 3¾c at the year's end, to which price of course must be added the 3c tax. Tallow has ranged from 3c at the start of the year to a current nominal price of 5½c pound. In the edible group the gains have been even more striking. Cotton oil has advanced from a price of 3¼c at the beginning of the year to 9½c at the year end, an increase of almost two hundred per cent. Corn oil has made a gain of almost equal proportions, the range being from 3½ to 9½c. It is interesting to note that most of these oils closed the year at the top prices.

AS TO the outlook for 1935, the general impression seems to prevail that the long range trend is more liable to be upward than the reverse. In view of the heavy slaughtering of fat producing animals as part of the government's price raising program over the past

(*Turn to Page* 53)

Hold Annual Soap Meeting

Association Meets in New York, Jan. 9—Reelect R. R. Deupree President—Code Budget Approved—25 Per Cent Cut in Code Assessment for 1935—Discuss Excise Tax and Foreign Soap Imports—No Uniform Cost System Contemplated—All Board Members Reelected.

THE annual meeting of the Association of American Soap and Glycerine Producers, held in New York at the Hotel Waldorf-Astoria, January 9, was attended by approximately seventy-five members of the industry who were unanimous in re-electing for 1935 the same board of directors which served during 1934. In accordance with the provisions of the soap and glycerine code, the board also acts as the code authority for the industry. At a subsequent meeting the board in turn re-elected the present officers of the association. R. R. Deupree had asked to be relieved of the responsibility of the presidency, but at the urgent request of the entire board, consented to continue service for 1935.

R. R. Deupree

The following association and code officers will thus continue to serve for 1935:

Association Officers

R. R. Deupree, President
H. D. Banta, vice-president for central states
S. B. Colgate, treasurer and vice-president for eastern states
F. H. Merrill, vice-president for western states
N. S. Dahl, secretary and assistant treasurer

Officers of the Code Authority

R. R. Deupree, chairman
F. A. Countway, vice-chairman
R. C. Edlund, executive secretary
S. B. Colgate, treasurer
N. S. Dahl, assistant treasurer

R. R. Deupree, Procter & Gamble Co., presided at the January 9th session. Mr. Deupree reviewed the activities of the association and code groups over the past year. His report was followed by the report of the treasurer, S. Bayard Colgate, Colgate-Palmolive-Peet Co. The proposed code budget for 1935 was then analyzed by Roscoe C. Edlund, executive secretary of the code authority. The total amount of the assessment is $60,000, and the proposed basis of contribution is 3/10 of one mill per net dollar of 1934 sales, a reduction of twenty-five per cent from the 1934 rate of assessment. Due to the fact that 1934 receipts ran ahead of preliminary estimates, there is an unexpended amount of $29,000 from the 1934 budget which will be transferred to the 1935 fund. The estimated expenditure is $82,500, leaving a leeway of $6,500 in case of unexpected expenditures. It is provided that, should the recovery act or the soap code terminate during the year, the mandatory assessment shall cease. Any criticisms of or objections to the proposed budget must be submitted to Deputy Administrator Ovid E. Roberts, Jr., 4057 Department of Commerce Building, Washington, prior to January 28.

Among recent developments in administration of the code is the appointment of three field workers under the direction of the executive secretary whose duties are to contact members of the industry, informing them as to various provisions and interpretations of the code, straightening out disputed points, and checking up to see that the code is being strictly observed. It was the sentiment of the meeting that these field workers can be of great assistance in keeping alive the industry's interest in and knowledge of code matters. Another new member of the code group was presented to the meeting by Captain Joseph F. Battley in the person of F. J. Martin. Mr. Martin, who replaces Mr. DeLong as administration member, will be stationed in New York.

ONE of the most important topics taken up by the meeting was the question of taxes. A. Roy Robson, Fels & Co., chairman of the tax committee, reported for that group, calling the attention of the meeting to the various state and federal taxes, excise and sales taxes, etc., with which the industry is confronted. Attention was called to the increasing imports of foreign-made soaps, and the question was raised as to whether the industry should press now for compensatory duties on imported soaps to offset the effect of the excise tax, or whether the appeal to Congress should be delayed and this situation later made the basis for a plea for elimination or revision of the excise tax. There was also some discussion as to whether the industry should center its attention on the excise tax or whether an attempt should be made to have the 5 per cent federal sales tax on soaps eliminated. The report indicated that local sales taxes would not be considered by the association, being left to the care of the specific localities where they are a problem.

Another phase of the tax situation was presented by Mason Trowbridge, general counsel for Colgate-Palmolive-Peet Co., who reported on the proposed suits to test the regulations under the oil processing tax. He indicated that, if a test suit is filed, it will probably not be until after Congress has adjourned, as it is indicated that the law may be clarified at this session. The procedure for the recovery of taxes is as follows: Within two years from the time when the tax is paid the taxpayer files a claim for refund, stating the grounds upon which the

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CINCINNATI

SANTA FÉ TERMINAL BLDG.
DALLAS

Plant at BARBERTON, OHIO

A standard five-pound bar of true blue mottled soap, the form in which the product is sold in the export markets today.

MOTTLED SOAPS

By WILLIAM E. WILKINSON

ALTHOUGH the consumption of mottled soaps has fallen off quite considerably in recent years, they are still of importance as items of export to South and Central America, and various sections of Asia and Africa. For domestic use in the United States, they have practically disappeared from the market. In England and on the Continent, they have likewise been displaced for home use by the newer forms of toilet and laundry soap. For those, however, who demand mottled soap, nothing else will do. It is a demand born of habit handed down through the years, because in reality, mottling adds nothing to the soap except in appearance. There is nothing a bar of mottled soap will do which the same soap without the mottle cannot do.

Originally, mottling in soaps was due to the impurities in the raw materials used. The fact that soaps were then made in much smaller batches than today, was also a factor which predisposed toward a mottle in the finished product. Geoffrey Martin states that true mottled soaps were a counterpart of the poor raw materials and faulty manufacturing conditions which prevailed some years ago and which have long since passed away. At any rate, present day mottling is secured artificially by silicating and with the use of various types of coloring.

The discovery of the methods for manufacturing soluble sodium and potassium silicates gave impetus to the production of mottled soaps in Germany and England. At the International Exhibition in England in 1862, the Widnes factory of Gossage won the first prize medal for soaps with a bar of their mottled soap. Christopher Thomas & Brothers of Bristol, England, were the first to manufacture silicated mottled soaps on a large scale, a patent having been issued to them for a silicating process in 1865. Gossage for many years were known also as one of the largest manufacturers of mottled soaps in the world.

The idea of deliberately mottling soap originated in Germany, where a number of brands of blue, grey, and red mottled soaps were made by the use of silicate. Two kettles were generally used for the operation, one being equipped with steam connections and in which the stock was saponified. This was then washed up with brine and allowed to settle over night, or, in the case of a small batch, for a few hours. The soap was then pumped off the nigre over to the fire kettle. Silicate of soda and the desired blue or red color was then mixed with water and added to the soap. The mass was then boiled vigorously for a few minutes and run into wooden frames. The soap was covered to retain its heat and the frames were stripped off only after it was cold.

According to Carpenter and Leask, practice and experience assisted by chemical analysis can alone decide when the soap is in a mottling condition. In that state, it should contain 45 per cent or less of fatty acids and 0.5 to 1.0 per cent of sodium chloride, according to the raw material employed. However, in my opinion, the use of sodium chloride in finishing mottled soaps is precarious. Shortly after 1893, some American manufacturers contemplated the manufacture of genuine mottled soaps and samples of a well-known British product were procured. These soaps did not contain sodium chloride, but rather a higher percentage of sodium silicate. With the use of these samples, in one case, continued experiments were carried on and there was formulated a definite oil and fat combination for the manufacture of a satisfactory mottled product. A few years later, these experiments resulted in the production of a blue mottled soap at a rate of 215 kettles a year of 40,000 pounds

each. The average test of the first 215 kettles was as follows:

Fatty Acids	45.22%
Water	44.04%
Free NaOH	.45%
Sodium carbonate	1.16%

In the manufacture of mottled soaps, good water for both kettle use and for the steam boilers is extremely important. Acid compounds for boilers, sulfurous water, spring and well waters are to be avoided. In general, lake waters, rain and surface waters are best. In finishing mottled soaps, the water should most certainly not be on the acid side for should the water weaken the soap at that stage, the mottling is rarely a success. In this connection some years ago, the writer had the misfortune to strike a plant where sulfurous water was in general use, and while he succeeded in making a good looking mottled soap at first, the soap turned opaque in two weeks and became coated with fine crystals of sodium sulfate.

The best water in the United States for mottled soap manufacture is found around the Great Lakes. While the water of the Great Lakes area is not considered the best for fine toilet soap manufacture on account of its high lime and magnesia content, it has been found in my experience to be one of the best for mottled soap production. The content of lime salts is readily taken up owing to the fact that an excess of sodium silicate is used.

IN MOST mottled soaps made today, coconut or palm kernel oils form a part of the charge. And since fatty acids have become more widely used, they are preferred to certain lower grade oils and greases which have to be acid washed, dried, bleached and filtered. And while discussing materials, it is important to emphasize the value of set formulas for the production of uniformity in color and texture. This is particularly true in mottled soaps where the nigre is not precipitated, for the entire mass is framed half an hour after the kettle is shut down. Under the circumstances, dirt and tank settlings interfere seriously with the quality of the finished article.

Should fatty acids form a part of the charge, the saponification can be carried out with sodium carbonate in the form of a saturated solution. The carbonate should be run into the kettle in the cold state first and then heated near to boiling. The fatty acids should then be run into the soda slowly along with a small stream of caustic soda and water. Great care should be taken that the valve controlling the flow of fatty acid is directly under the hand of the soap maker at all times, for as every soaper knows, boil-overs when saponifying fatty acids are common. If this procedure is followed with care in the saponification of fatty acids generally, no difficulties will be experienced. Under no conditions, run in the fatty acid first and expect to make a clean job of the saponification.

When the fatty acid is well saponified and on a lye grain, the coconut oil or palm kernel should be run in, followed by the grease and balance of the stock, keeping plenty of strength in the kettle. For convenience, a storage tank holding the entire charge except the fatty acids, was always used by the writer for convenience in charging the kettle. The soap produced was opened up or grained out on caustic soda lye only and no salt was used. The killing change soap was kept boiling for at least three hours or longer to insure complete saponification. Two washes besides the killing change were used to get the soap in shape for finishing. The killing change lye tested 6.75 to 7.5 per cent NaOH, but the last wash was a trifle stronger, 7.5 to 8.5 per cent NaOH. As these strong washes contain glycerine, they were used elsewhere in the plant for saponification where an ordinary settled soap was being made. The weak liquor was then pumped over to the glycerine plant. After the last change, lye was drawn off, and before finishing a kettle of mottled soap, the clean soap scrap from the previous batch was returned to the kettle, and when melted, was boiled up after the silicate of soda and the blue water had been added. Mottled soap scrap will remelt with the rest of the batch.

THE important stage of finishing came next. We had the laboratory tests on total fatty acids, also the alkali and moisture tests, the latter being of importance for profit's sake. The last change lye tested, say 8.25 per cent NaOH. Therefore, there was enough strength left in the mass to take care of the silicate of soda to be incorporated. The blue water was added just after the silicate. Possibly more caustic soda lye was necessary, should the soap prove too weak. A lack of strength was the cause of many a "sheeny boil," a common term for a kettle to turn out all blue with a sheen, instead of the blue color flaking out with the grain of the soap.

Not only must the soap show a decided alkaline strength at this time, but water must be added, should the soap fail to rise quickly. Steam valves were regulated to boil the mass vigorously, for at this stage, good dry steam and quick boiling is imperative,—for mottled soaps do not require more than fifteen minutes to boil up to the rim of the kettle when conditions are right. Success or failure present themselves in less than five minutes after the kettle is shut down. If the feathery grain did not show in the folds of the settling soap, it was "a sheeny."

Then came the problem of opening up the kettle with strong lye, washing out the silicate of soda and the blue color, and proceeding to try it again. In this case, the closed steam coil was used. Further moisture and NaOH tests were made, for invariably the cause was one or the other. Should the moisture test more than 45 per cent, boiling down some of this sometimes saved the day, or if the soap proved too weak in NaOH, lye was the remedy. Many a doctored kettle of mottled soap has been saved, framed and shipped after being condemned.

As already stated, a kettle of mottled soap was framed half an hour after the kettle is shut down. This required speed with plenty of help to accomplish the job. The framing floor was close to where the soap was drawn off into the frames. For it is necessary to keep mottled soap hot. A draft from an open window in the winter time can spoil a lot of soap. The floor space of the room was covered with perforated steel plates to allow heating from suspended coils under the floor. The room was enclosed with sheet metal or other material, allowing space for generous sliding doors, accessible to the kettle draw off pipe.

MANY of us have been guilty of trying to imitate the varied shades of the peacock blues of genuine mottled soap. It is sad, but nevertheless a fact, that most people buy an imitation in preference to the genuine. But the soap makers' case is different for the imitation apparently washes just as well as the genuine.

One of the best sellers some years ago was a three-color effect mottled soap, which was shipped to the West Indies. This soap was manipulated from melted crutched soap scrap made from house grease and white grease rosin soap, loaded with everything up to marble dust. Also a settled cotton oil foots soap was used, which when put into the soap frame with the rosin soap, made two different colors. The third color was the ultramarine blue, mixed with 100 lbs. of the filled grease and rosin soap in a small crutcher.

About 100 lbs. of the rosin soap scrap was put into a soap frame from the crutcher, and also the same amount of the settled cotton oil foots soap. The blue soap mixture was incorporated with the use of a square box, 12" square, to fit into the frame, provided with a quarter inch wire screen tacked on the bottom. Two pieces of wood nailed either side of the box and long enough to reach across the soap frame formed the handles. This contrivance when jiggled would sprinkle the surface of the soap in the frame fairly evenly, this was then hand crutched just enough to mix in the blue soap. And the operation was repeated until the frame was filled, the soap was again hand crutched again with a few up and down motions the length of the frame, and the top slicked off with a trowel as usual. This same method can be applied to any soap, and if carefully hand crutched, some very near mottling effects can be produced.

Another method much more rapid than the above, was accomplished with the aid of two crutchers. One crutcher containing fresh kettle filled soap, and the other crutcher with the same filled soap, but with blue color added. Attached to the bottom outlet of first crutcher was a trough five or six feet long, and six inches wide. Another trough from the blue soap crutcher was attached the same way, but discharged into the first trough near the outlet of crutcher gate, thus making this six-inch trough long enough to mix the two streams of soap before they reached the soap frame. While the two colored soaps are running together down the trough, an operator with a four pronged square headed rake five inches wide, to fit into the six inch trough, mixed the two soaps with a rapid up and down motion. The more the operator exerted himself, the better mottling effect was produced.

Not all color schemes and effects were due to the manipulations of tools, or could we give the operator all the credit, for some of the most striking effects were due to the mixtures of the different soaps used. Many of these effects were made from the cheapest fats and oils. For instance, a formula of brown grease soap, settled cotton oil foots and rosin soap produced striking vari-colored effects. The soap was kettle settled in the usual way, and drawn off, using the same arrangement of two crutchers, one for the filled soap, and the other crutcher with just the neat settled soap without filling of any kind. To this the ultramarine blue was mixed in hot water, and crutched in. The soap was run down the troughs as before, regulating the gate of the blue soap crutcher, so as to use only one-quarter to one-third of the contents. The operator manipulated the four pronged rake along the trough twisting it vigorously until the frame was filled. This soap when cold showed brilliant blue and translucent patches, and a broad mottling effect.

FAT PRICES UP IN DECEMBER

The index of oil and fat prices for the month of December, 1934, was 91.2 as compared with 87.1 for November, according to the figures of the Bureau of Raw Materials for American Vegetable Oils and Fats Industries. For December, U. S. Department of Agriculture index for all commodities was 101 as compared with 102 for November. The individual figures follow:

	December 1934	*November* 1934
Castor oil	97.3	97.3
Corn oil	166.1	149.3
Cottonseed oil	154.8	135.4
Lard	90.6	80.8
Oleo oil	101.5	109.2
Peanut oil	127.0	110.7
Sesame oil	120.2	111.1
Soybean oil	130.2	113.3
Stearin, oleo	80.6	77.7
Chinawood oil	108.4	105.2
Coconut oil	47.8	42.9
Cod oil	77.6	82.7
Grease	78.9	75.6
Herring oil	63.1	57.1
Linseed oil	97.8	96.9
Menhaden oil	83.9	76.9
Olive oil	101.0	101.0
Olive oil foots	98.5	100.2
Palm oil	45.8	42.3
Palm kernel oil	33.2	31.7
Rapeseed oil	61.8	62.2
Tallow	70.6	67.8
Whale oil	99.9	103.4

The index of employment in the soap industry stood at 104.6 in November, 1934, as compared with 105.6 in October and 97.5 in November, 1933. The pay-roll index registered 92.5 in November, 1934, as compared with 94.7 in October and 77 in November, 1933.

A recent Cuban decree repeals the consumption taxes on imported soaps as well as caustic soda and soda ash.

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THIS is the second of a series of articles by Dr. Rossman, reviewing and discussing various United States patents which have been issued covering the physical form of soap articles. Some of the patents discussed date back almost to the Civil War; others are of comparative recent issue. Dr. Rossman, who is a chemist and a member of the bar, has for a number of years been a chief examiner in the United States Patent Office.—The Editors.

Patents for Soap Articles

Part II

By JOSEPH ROSSMAN, Ph.D.

CAKES of soap have been provided with inserts of abrasive materials for scouring or polishing purposes in addition to the cleansing action of the soap. Patent 246,989, Sept. 13, 1881 to B. M. Wilkerson, for instance, describes a facing for the cake, extending wholly or partially across its face and made of some abrading material, such as a mixture of sand and plaster-of-paris or pumice stone, either in the natural state or formed into plates by grinding, mixing with a suitable cement, and molding into shape.

Patent 680,052, Aug. 6, 1901 to T. A. Lynch shows a cake of soap having a plate of rigid material embedded and having opposite sides projected outward from the plane of the soap to form legs, the space between the legs being open at the ends, and an abrasive material such as pumice stone attached to the plate between the legs.

Another Patent 692,481, Feb. 4, 1902 to W. E. Robinson inserts in one edge of a cake of soap a strip of abrasive soap which is somewhat harder and wears away less rapidly than the material of the body portion and the side layers, the intermediate layer being composed, for example, of so-called "pumice" soap and inserted between the side layers, so that the layers are held together by the body portion.

The invention of Patent 1,618,323, Feb. 23, 1927 to C. Blomstrom consists of a bar of soap, provided with a large number of transverse holes which are tapered from both sides to the center of the cake, and these holes are filled with a gritty scouring material.

It has been proposed to embed carborundum, steel wool and other abrasives in a cake of soap. Steel wool has been embedded in a cake of soap having a woolen fabric backing to prevent the steel wool from injuring the hand. In the latter case, the steel wool is employed for its remarkable abrasive quality which is, of course, useful for certain purposes.

It has been suggested that crystalline metals such as zinc, or even certain non-ferrous alloys, might be sufficiently abrasive to be used as a substitute for the steel wool. A recent patent to Crosby Field, No. 1,682,120, Aug. 28, 1928, assigned to Brillo Mfg. Co. embeds in the cake, preferably by casting, a wad or mass of soft metal ribbons or threads such as copper or aluminum or nickel and also various soft metal alloys as, for instance, the softer knids of brass, bronze, German silver, Monel metal, and ordinary tinsel. These soft metals are used in the form of thin, narrow ribbons so that their physical flexibility and shape will permit slipping over the surface to be cleaned, without scoring the surface, except under great pressure which may be easily avoided in practice. Such metals are non-rusting, and for this reason and also because of their softness, they may be used in the form of metal wool, which may be like steel wool in size, but which will be free from the biting, cutting quality, characteristic of steel wool.

Another patent 1,686,861, Oct. 9, 1928, to R. B. Kingman, describes a scouring soap cake made from an abrasive scouring element consisting of a knitted open mesh fabric made of flat copper wire formed into a loosely compacted resilient and foraminous mass and a hard soap impregnating the mass and molded about it so as to fill the interstices.

Sponges have been inserted in cakes of soap in various ways. Patent 389,296, Sept. 11, 1888, to J. P. Greeley, takes a piece of sponge which has been dampened sufficiently to expand it and thoroughly open its pores. It is then cut somewhat into the form of the cake to be produced. The sponge is then placed into the mold which is to give permanent form to the cake, and hot

liquid soap is poured into it and it is then allowed to set.

Soap and sponge have also been combined in a shaving stick by interposing a layer of sponge between sections of soap, the sponge layer being of less thickness than the soap body and having its edges exposed on opposite sides thereof, the soap-body completely covering the sides of the sponge layer. (Patent 821,245, May 22, 1906, to R. H. Hutchinson.)

According to patent 1,553,775, Sept. 15, 1925, to M. Hertz, a sponge soap for shaving purposes is made by first moistening a rubber sponge slightly and then dipping the sponge into the soap powder a sufficient depth so as to fill a substantial portion of the sponge body with the soap. The sponge is then wrapped in glazed paper and sealed. The sealed sponge is placed in a steam sterilizer, such for example, as employed in hospitals. During the sterilization, the heat causes the soap powder to become impregnated within the pores of the sponge. It is proposed to sell the sponges made in accordance with this invention in sealed form to be opened only by the barber or other such person when the sponge is to be used. For insuring absolute sanitary use, a sponge should not be reused after having once been used.

An ordinary cake of soap, according to patent 717,256, Dec. 30, 1902, to N. J. Nilson has a strip of fabric embedded in one face of the cake. The bar of soap may be thus more securely held in the hands when wet, the cloth or fabric, which remains securely embedded in the bar, serving to prevent it from slipping out of the hand.

Patent 246,220, Aug. 23, 1881, to R. D. Schultz, wraps the entire cake of soap with a dish-rag cloth which is retained by a paper band. The inventor calls his article "Dish-rag Soap."

A strip of stiff paper has also been embedded in a cake of soap formed into a thin bar, used as a finger nail polisher. The soap has mixed with it an abrasive substance such as finely ground pumice, which, in acting with the soap, facilitates the cleaning operation. The paper core is preferably made of short-fiber material such as wood pulp, so that it will wear away at the same rate as the stick of soap. (Patent 1,355,391, Oct. 12, 1920, to M. I. Dowling.)

A saponaceous fabric can be made by taking a loosely woven, open-mesh, absorbent fabric and impregnating it with a soap solution, having a powdered abrasive material mixed therewith. The impregnated fabric is then dried. When the soap solution solidifies upon drying the cloth it serves as an effective binder for the powdered abrasive material. The mesh must be large or coarse enough to permit the soft and coarse fibrous strands to entirely take up or absorb a substantial quantity of the soap solution without the formation of appreciable surface coatings on the individual strands, and without the closure of the meshes by a filling of the soap or detergent compound, so that the fabric will be highly flexible after it is impregnated and dried and may be folded and crumpled freely while dry without freeing any of the detergent material. (Patent 1,526,149, Feb. 10, 1925, to C. S. Jackson.)

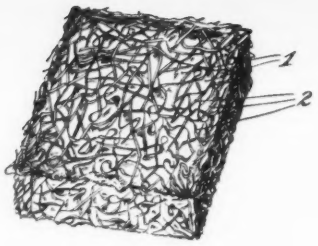
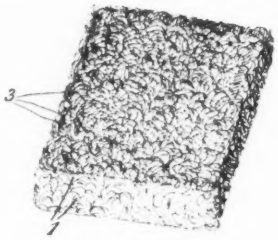


Fig. 1.

*1,682,120

Fig. 2.



Many devices have been patented for embedding in a cake of soap whereby it can be attached to a nail or hook, or suspended by a chain. The holder is embedded in the cake of soap during or after its manufacture. Barbs, hooks, wires, perforated and roughened plates, balls, wire coils have been utilized for this purpose. The reader is referred to the annexed figures which illustrate various patented devices.

The following patents have been granted for this type of device:

J. L. Stackhouse, No. 178,883. June 20, 1876.
J. R. Hare, No. 237,861. Feb. 15, 1881.
F. W. Ostrom, No. 436,490. Sept. 16, 1890.
F. W. Ostrom, No. 439,175. Oct. 28, 1890.
M. Oefinger, No. 487,094. Nov. 29, 1892.
C. A. Breul, No. 508,809. Nov. 14, 1893.
D. R. McKim, No. 639,199. Dec. 12, 1899.
H. L. Boswell, No. 701,463. June 3, 1902.
J. G. Drought, No. 843,330. Feb. 5, 1907.
P. F. Cox, No. 849,978. Apr. 9, 1907.
G. W. Gaines, No. 886,791. May 5, 1908.
W. R. Vandewerker, No. 914,619. Mar. 9, 1909.
M. Bailly, No. 1,478,882. Dec. 25, 1923.
S. Cummins, No. 1,495,165. May 27, 1924.

Patent 237,861, Feb. 15, 1881, to J. R. Hare proposes to attach an elastic string to the cake of soap, saying: "It is well known that in the ordinary use of soap, both of the toilet and washing description, a very large proportion thereof is wasted by the soap being left in the water; and that even if the soap, after use, is placed in a soap-dish having a perforated tray, sufficient water is retained between the soap and tray to soften the under surface of the cake."

Hand soaps have been provided with brush inserts

in order to expedite cleansing operations. Patent 419,275 Jan. 14, 1890 to J. B. Mitchell shapes a cake of soap into the form of a brush handle and inserts bristles. The bristles may be attached to the soap after or during the manufacture of the cake. The cake may be molded, and after it has been taken from the mold a hole or holes may be punched therein. The bristles may be surrounded by water-proofing cement or paraffin or similar material applied to that part which is inserted in the soap.

Instead of inserting the bristles directly in the soap it has been proposed to insert the bristles in a backing and inserting this assembly in the cake of soap provided with a suitable aperture to receive it. An elastic cord is used to retain the brush in place. (Patent 437,818 Oct. 7, 1890 to A. S. Miles).

A flat circular brush has also been combined with soap so as to make a flat round cake of soap with the bristles extending at the edges (Patent 488,393 Dec. 20, 1892 to N. Jewett).

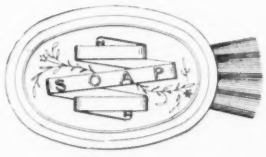


Fig. 1. #419,275

Fig. 4.

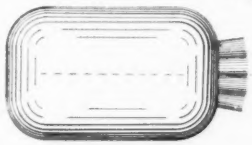


Fig. 2.

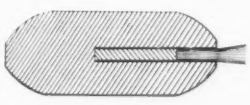


Fig. 3.

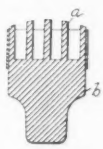


Fig. 5.

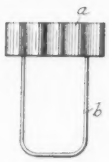


Fig. 6.

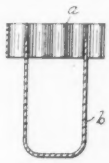


Fig. 7.

A flat wooden plate carrying tufts of brush fiber extending through it has been embedded in soap for laundry uses. (Patent 816,002 March 27, 1906 to H. A. Burt).

SOAP has been combined with medicinal substances by various methods. The obvious thing to do, of course, is to mix the medicinal material with the soap. It is sometimes desirable to keep the medicinal material distinct and separate from the soap and at the same time make it possible to apply it with the soap. A series of patents has been obtained by L. S. Samuel for achieving this purpose. His first patent employs two sections of soap provided with chambers opening toward the meeting faces of the sections so as to be closed when the sections are brought together. These sections are filled with any desired medicaments. The sections are held together with rubber bands as well as by an oiled wrapper open at one end. By having the openings of the receptacles in opposite sections toward the interior of the cake, the medicinal material, for example, in the form of powders or other forms in which they would be apt to disconnect themselves from the cake, are prevented from escaping, and are only exposed to the influence of the atmosphere as the cake wears away. The walls of the receptacles may be lined or coated before being filled to prevent the material of the body of the cake from affecting the filling material. The wrapper being open at one end, while it allows the cake to be used, prevents waste, and enables the persons employing the cake to do so without soiling their fingers—a feature desirable under some circumstances. (Patent 393,928 Dec. 4, 1888 to L. S. Samuel).

The next patent 549,330 Nov. 5, 1895 to Samuel provides separate medicated sections in a cake of soap. For example, one section may, in addition to its saponaceous ingredients, contain a medicinal ingredient, such as tar. The second section may contain another different medicament, such as sulphur. Likewise one section may contain arnica and another corrosive sublimate. Another cake may contain balsam of Peru in one section and in its second section benzoic acid. Another cake may contain in one section Lana oil and glycerine in its complement. In another cake borax and camphor may be employed and in another cucumber cream and witch hazel. Combinations of other well-known medicaments may be employed and the combinations may be changed at will or as may be deemed desirable. These sections are differently colored to more perfectly

(*Turn to Page 65*)

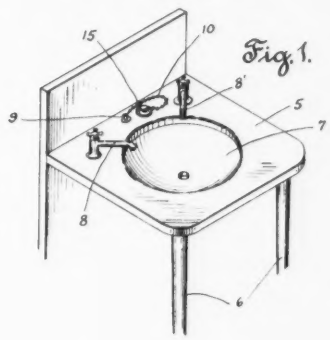


Fig. 1.

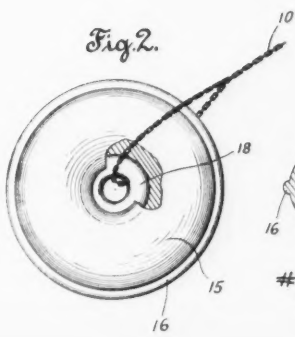


Fig. 2.

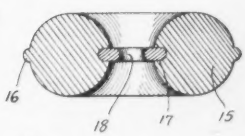


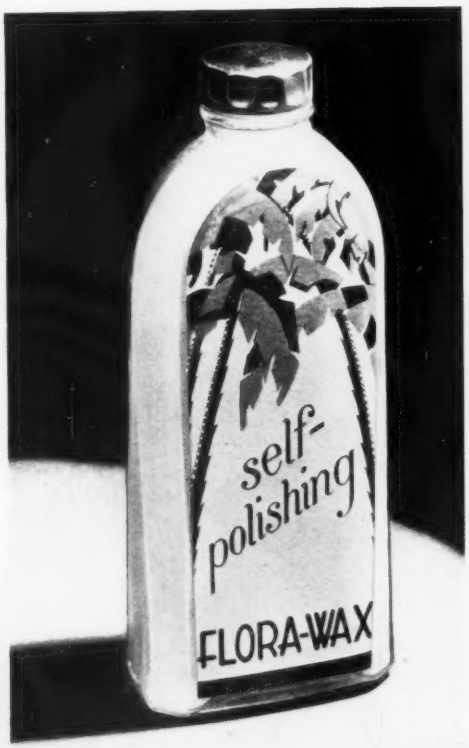
Fig. 3.

#1,495,165

New

Another Japanese toilet soap makes its appearance on the American market. Twelve cakes in three colors to the box. Retailed by Gimbels for 29 cents per box. Reported sold by the importer at $2.00 per dozen boxes.

◆



A self-polishing wax emulsion steps out of character and goes highbrow,—in glass with attractive label, this makes a very striking package. Flora-Wax is made by Adams Products, Inc., of St. Paul. The bottle is by Owens-Illinois.

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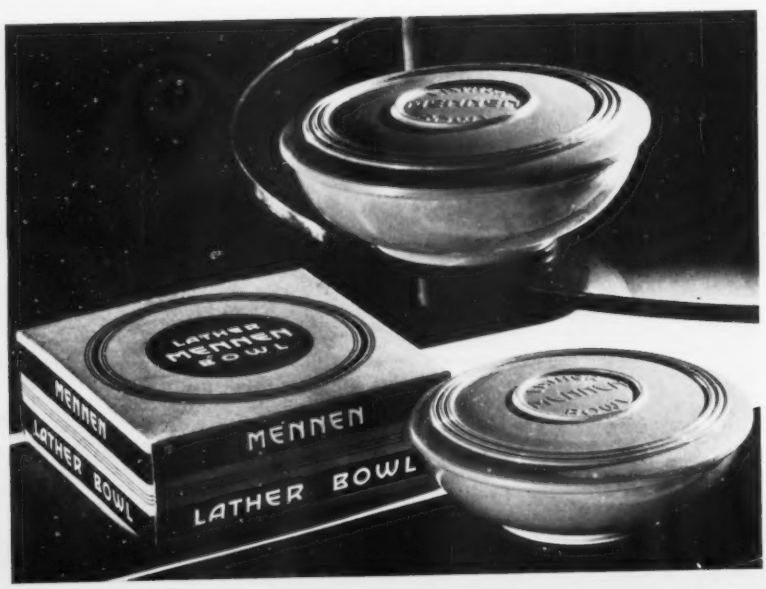

A new lather bowl as a container for shaving soap by the Mennen Company. The bowl is made of resinox plastic in the Mennen green color and is being molded by the Tech-Art Plastics Company of Long Island City, New York. Retails for seventy-five cents.

Products and Packages

Built after the style of the pyramids with broad base for stability and with non-slip sides for a firmer grip,—a new polish package of Superior Products Company. Container and closure by Anchor Cap.

Dwin-Maid Water Softener and Cleanser is a new product just put on the market by the Baldwin Laboratories of Saegertown, Penna. It is a companion product to Dwin Liquid Insecticide. The new counter display unit is shown here.

Additional manufacturers of paste polishes and chemical specialties adopt the small metal box for their products. These packages are an adaptation of the Amerseal Cap to the small metal container.

SOAP presents a *perfuming problem* of a special character. To handle it successfully requires intimate knowledge of soap manufacturing and, above all, experience with soap perfumes.
We have done a considerable amount of work along those lines, and offer several series of soap perfumes of *tried worth.*
Send for *smelling samples.*

Almond	Lemon
Almond—Rose	Lilac
Almond—Cocoa	Lily
Antiseptic Odor	Mint
Bouquets of great variety	Narcissus
Carnation	Orange
Cedar	Oriental
Citrella	Patchouly
Cologne	Pine
Fougere	Pineapple
Gardenia	Rose
Geranium	Sandalwood
Girella	Sweet Pea
Jasmin	Verbena
Lavender	Violet

Also many odors for shampoo and liquid soap

van Ameringen-Haebler, Inc.

Aromatic Essentials

315 Fourth Avenue, New York
180 No. Wacker Drive, Chicago
438 West 48th St., Los Angeles
42 Wellington Street, E., Toronto

Factory, Elizabeth, N. J.

APPROVE SOAP CODE INTERPRETATIONS

The following interpretations under the Code of the Soap and Glycerine Industry have been made by the Code Authority and approved by the NRA for publication. Further information may be secured by communicating with R. C. Edlund, executive secretary of the Code Authority, 386 Fourth Avenue, New York. The interpretations herewith are the latest ones to be released, all prior interpretations having been published in previous issues of *Soap* as they have been released.

Facts: We make some soap, but our production of this item is small and represents a relatively unimportant part of our total volume of business. It is really a sideline with us and does not require the full time of any of our employees. It is so small that we are not required to pay any assessment to the Code Authority of the Soap and Glycerine Industry.

Question: Are we required to put up the labor posters of the Soap and Glycerine Industry, file compliance reports, and apply the hour and wage provisions of the Soap and Glycerine Code to our employees insofar as they engage in the manufacture of soap?

Answer: Yes. If you engage in any phase of the manufacture of soap, soap products, glycerine, or cleansers containing soap and insoluble mineral or minerals as essential ingredients, you must comply fully with all requirements under the Soap and Glycerine Code.

Facts: Our manufacture of soap is only a small part of our total production. In fact, it is so small that we have operated our entire plant under the code of another industry. It would cause us some inconvenience and expense if we should attempt to apply the provisions of the Soap and Glycerine Code to our limited soap manufacturing operations.

Question: Are we required to comply fully with all requirements under the Soap and Glycerine Code insofar as we make soap or soap products?

Answer: Yes, every manufacturer who makes soap, soap products, glycerine, or cleansers containing soap and insoluble mineral or minerals as essential ingredients, must comply with all requirements under the Soap and Glycerine Code.

Facts: An employee is engaged in the duty of operating soap presses. He, with an assistant known as a racker, lifts three or four racks of soap (forty-two to sixty bars each) to the table of the soap press and then he and his assistant feed the bars into the press. The operator starts and stops the press and is responsible for its operation and the resultant product. He oils, cleans and cares for the machine and dies, and is responsible for producing approximately six hundred boxes of eighty bars each in a period of eight hours.

Question: May the employee described above be paid the minimum wage provided by Article IV, A, 2, of the Code of Fair Competition for the Soap and Glycerine Manufacturing Industry, on the theory that he is engaged in the light task of wrapping, packaging and filling?

Answer: No. The employee whose duties are described is not engaged in the light task of wrapping, packaging and filling and, therefore, must be paid not less than 40c an hour, or in the southern states not less than 35c an hour.

Facts: A racker is an employee who assists the press operator. His duties are to pull truck loads of soap from the drying ovens, assisted by the drying oven operator, to the soap presses where he assists the press operator. The racker also restacks the empty racks on the trucks.

Question: May the employee described above be paid the minimum wage provided by Article IV, A, 2, of the Code of Fair Competition for the Soap and Glycerine Manufacturing Industry, on the theory that he is engaged in the light task of wrapping, packaging and filling?

Answer: No. The employee whose duties are described is not engaged in the light task of wrapping, packaging and filling and, therefore, must be paid not less than 40c an hour, or in the southern states not less than 35c an hour.

JOHN T. STANLEY DIES AT 92

John T. Stanley, president of John T. Stanley Co., New York, the firm which he founded almost seventy years ago, died January 7, at his home on 23rd street, New York, at the age of 92 years. Mr. Stanley suffered a fall in his home, the results of which brought on pneumonia. Up until the time of his death, he enjoyed the best of health and had been the active head of his company. Mr. Stanley was born in London, the son of John Thomas Stanley and Elizabeth Pinner Stanley. Both his father and his grandfather had been soapmakers. He came to United States in 1861 and for four years worked with an uncle, Edward Pinner, who was in the soap business. It was in 1865, at the age of 22, that he founded John T. Stanley Co. The firm is now located at 642 West 30th St., New York, on its third site. In addition to the "Mobo" line it manufactures toilet, laundry, powder, chip, bar and liquid soaps. It does a large volume of domestic trade, as well as a considerable export business in South America. Mr. Stanley's two sons are active in the business, Alfred T. Stanley as vice-president and treasurer, and John W. Stanley as secretary. A daughter, Mrs. H. C. Parmly, also survives. Mrs. John T. Stanley died about ten years ago at the age of 77.

EXPECT BRITISH SOAP MERGER

Two leading British chemical undertakings, both of them large toilet soap manufacturers, are expected shortly to merge. They are Taylors' (Cash Chemists), Ltd., and Timothy Whites, Ltd. A third firm, Taylors' Trust, will also be included in the merger. Timothy Whites, Ltd., which operates, with its manufacturing and retail subsidiaries, about 200 branches, mainly in the south of England, has an issued share capital of just under £2,000,000 ($10,000,000). The Taylor organization controls Parkes Chemists and Mortons Cash Chemists, and has 232 establishments, including several in the provinces. Directorates of all three companies are practically identical, the chairman in each case being Philip E. Hill. It is believed that the object of the coming merger is to facilitate a plan bringing about substantial economies.

NO GLYCERINE SHORTAGE FROM MUNITIONS

Reports of a glycerine shortage in Canada were checked up by a representative of SOAP there. It was denied that an exceptionally large demand for munitions was accountable. W. G. Cross, of Canadian Industries, Limited, Canadian explosive manufacturers, when asked about a report from Kitchener ascribing a shortage of glycerine to demands of munitions makers, said: "You can discount that about 100 per cent. I think the person who told it must have been reading the stories about Du Pont. I suppose a certain amount of it is being used for explosives, but no more than usual."

Telephone calls to the offices of Procter & Gamble, and the Colgate-Palmolive-Peet Company, Limited, brought varied responses. The former said they were taking all the orders they could get for glycerine, and so far had not had difficulty in filling any. They knew of no extra demand being made this year by manufacturers of explosives. T. J. Williams, superintendent of Colgate-Palmolive-Peet Co. admitted there was a scarcity of the commodity. He ascribed it to the circumstances that soap production was not as high as it was during 1929.

—♦—

W. W. Shoemaker, vice-president of Armour & Company, Chicago, has been appointed general sales manager, with jurisdiction over domestic and foreign sales, general sales policies and advertising. For the last twelve years Mr. Shoemaker, who has been associated with Armour since 1900, has been in charge of foreign operations. I. M. Hoagland, vice-president, will continue in charge of branch house and car route operations and other domestic sales outlets.

—♦—

Innis Speiden & Co., industrial chemicals, have recently bought a modern factory building in Jersey City, N. J., which will be used for manufacturing, storage and as a convenient distributing point for the metropolitan district. The new branch factory is conveniently located only a few blocks from the entrance to the Holland Tunnel. It has a floor area of 30,000 square feet, with possibility of expansion up to 120,000 square feet.

—♦—

ANNUAL SOAP MEETING HELD

(*From Page* 19)

claim is made. The Treasury Department has six months within which to act upon the claim. If it is rejected within six months, or if six months expire without action on the claim, the taxpayer may then commence a suit. There is, accordingly, no necessity for filing any claims for refund prior to July, 1936.

When the test suit referred to is finally determined the Treasury Department will undoubtedly deal with all claims in accordance with this determination. This should include decisions on the questions (1) whether the term "first domestic processing" as used in the Act means the initial domestic processing whether occurring before or after May 10, 1934 (in which event, if it occurred before May 10, it might not be taxable), or means first processing after the effective date of the tax; (2) whether the Treasury Department is correct in its ruling that the entire operation of the soap maker beginning with refining of the oil and ending with the kettle or with framing (just where it is deemed to end does not yet seem quite clear) is a single continuing use of the oil, where all these operations are conducted by the soap maker himself, and that such use is taxable if any part of it occurs after May 10; and (3) whether soap from which the glycerine has not been removed is a "combination or mixture" of oil with other substances within the meaning of the Act so as to render soap in the kettle taxable on that theory as well as on the single continuing use theory referred to above, so as to render taxable the reworking after May 10 of scrap soap containing the glycerine which was made before May 10.

ANOTHER feature on the program was the report by N. N. Dalton, director of research of the Glycerine Producers Association, on the work being done in research on glycerine. He emphasized the importance of finding new uses for this by-product to stabilize the market, and warned against too great fluctuations in price, either down or up, pointing out in the latter connection that every time glycerine prices "skyrocket", the industry loses another share of the consuming trade to substitutes.

Cost control also came in for discussion, in answer to a question from the floor presented by Albert Steiner of the Cincinnati Soap Co. It was indicated that in view of the present NRA attitude toward cost analysis and possible attempts at price control, it would not be particularly worth while for the industry at present to take very definite steps along this line. Mr. Edlund advised that the present policy of the code authority is to adopt an educational program on cost accounting as a long range policy and not to make any attempt to put through a mandatory cost accounting system.

As indicated above the meeting re-elected the same board of directors for 1935, the personnel of the board being as follows:

H. D. Banta, Iowa Soap Co., Burlington, Iowa.
N. R. Clark, Swift & Co., Chicago.
S. Bayard Colgate, Colgate-Palmolive-Peet Co., Jersey City.
F. A. Countway, Lever Brothers Co., Cambridge, Mass.
N. S. Dahl, John T. Stanley Co., New York City.
R. R. Deupree, Procter & Gamble Co., Cincinnati.
G. A. Eastwood, Armour & Co., Chicago.
S. S. Fels, Fels & Co., Philadelphia.
I. Katz, J. Eavenson & Sons, Inc., Camden, N. J.
F. H. Merrill, Los Angeles Soap Co., Los Angeles.
W. C. Wollen, Olive Oil Soap Co., Paterson, N. J.
C. F. Young, Davies-Young Soap Co., Dayton, Ohio.

Following the election the general meeting adjourned, and was followed in the afternoon and on the following day by special meetings of the code authority and various committees.

CHICAGO TRADE NOTES

AT THE Annual Business Meeting of the Chicago Perfumery, Soap and Extract Association December 18th, the following officers for the coming year were elected: J. H. Helfrich, Helfrich Laboratories, president; George Wrisley, Allen B. Wrisley Co., vice-president; W. Kedzie Teller, Columbus Laboratories, secretary and treasurer. Mr. Helfrich, the new president, is at present working on committee appointments and will be ready to announce them later this month. The Christmas party on December 13th was the largest in the history of the association.

—♦—

The annual Christmas stag banquet of the Chicago Drug and Chemical Association, December 20th, at the Stevens Hotel brought out 260 members. This is the largest attendance in the history of the affair. Credit is due F. L. MacCartney and his committee for the capable handling of all arrangements for the party. The next regular meeting of the association is scheduled for January 31st.

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Twenty-six bowlers were on hand for the New Year's Bowling Tournament of the Chicago Perfumery, Soap and Extract Association at the Elks Club, December 27th. Fifteen prizes consisting of turkeys, geese, ducks and chickens were awarded. The three leading scorers were C. A. Seguin, M. B. Vance and V. W. Franzen.

—♦—

George L. Simmonds, president of U. S. Sanitary Specialties Co., is sailing from New York, January 26th on the *S. S. California* for a vacation cruise through the Gulf of Mexico and the Panama Canal to Los Angeles. Mr. Simmonds is planning to stop at Havana and other points en route.

—♦—

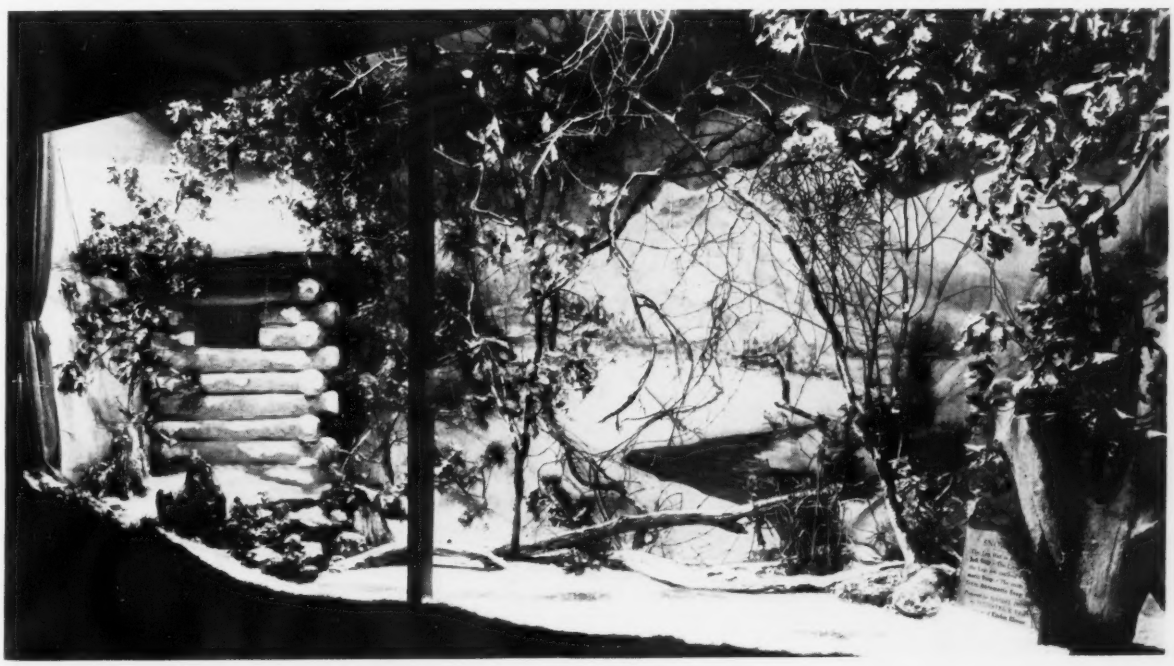
John H. Swart, Chicago representative for the Hazel-Atlas Glass Co. died of pneumonia last month.

—♦—

Charles W. Gillett, president of the Champion Chemical Works, Chicago, died of pneumonia on January 1.

—♦—

Miss Helen Duncan, Chicago, an unemployed commercial artist, won the first prize of $1,000 for life in the Camay soap contest sponsored by The Procter & Gamble Co. Miss Duncan's letter was judged the best of 900,000 received. Miss Duncan was presented with the prize at the Palmer House, December 10th by Harry S. Brutton, director of public relations of P. & G. and S. J. Davis, Chicago district manager for P. & G.



One of the most original and interesting window displays of soap products ever shown is the "Mountain Snow Scene" arranged by Fitzpatrick Brothers, Chicago. It appeared for several weeks last month in a Madison Street window of Mandel Brothers, one of Chicago's largest department stores. The snow is made from components of *Kitchen Klenzer*. The log hut is hewn from slabs of *Big Jack Soap*. The crevices between the logs are caulked with *Automatic Soap*. The scene was originally made up for the Horticultural Building at the Century of Progress. It created so much interest at the Fair that the company decided to use it as a commercial display when the Exposition closed.

Mrs. Jackson☆ tries a new cleaner

SHE'LL BUY MORE . . . IF IT WORKS FAST, SAVES HER TIME!

Mrs. Jackson doesn't know why one cleaning compound gives her a quick start on a cleaning job—even in hard water—and another doesn't.

She hasn't the time or the inclination to look into the *reasons* for that.

Mrs. Jackson is interested in quick action. She wants a cleaner that softens the water quickly . . . melts the dirt away . . . saves scrubbing. She's willing to try them all. When she's found the one that works the fastest . . . leaves the cleanest surface, she'll buy more of it . . . and keep on buying it.

You know and we know that the quality of the Tri Sodium Phosphate you use is tremendously important. It has a lot to do with the way your compound performs for Mrs. Jackson.

☆ The Jacksons are a typical American family. They are neither rich nor poor. They have money to spend. They know what they want—and what they can afford. They may not buy scientifically but they buy practically . . . are alert, quick to recognize new standards. To keep the Jacksons buying *your* product—keep improving it. They will respond . . . with purchases.

We recommend AERO BRAND TRI SODIUM PHOSPHATE. It is a powerful detergent . . . an ideal water softener. It is free-flowing . . . uniform in strength and quality . . . mixes well because it is carefully cured and screened.

If you manufacture cleaning compounds of any type, try Aero Brand T.S.P. You'll find it pays to give your product that sure-fire, quick action quality that appeals to Mrs. Jackson!

AERO BRAND TRI SODIUM PHOSPHATE

American Cyanamid

AND CHEMICAL CORPORATION

30 Rockefeller Plaza • New York, N. Y.

PERSONAL AND IMPERSONAL

Thomas Nolan, in charge of the toilet soap department of J. Eavenson & Sons, Camden, N. J., recently completed fifty years of service with the company.

Lever Bros. Co. recently leased 242,000 square feet of warehouse space in the Noyes Buick building, Waltham, Mass., on a five-year lease.

A. L. Bobrick, president of the Bobrick Manufacturing Co., Los Angeles and New York, has resigned as Chairman of the Code Committee of the Pacific Coast Soap Group to accept a new office as Assistant Deputy Administrator in the Chemical Division of the NRA. He has been assigned to the Paper and Pulp Section where he will have charge of fifteen codes covering the paper manufacturing trade.

All salaried employes of J. R. Watkins Co., Winona, Minn., received a 5 per cent bonus of their 1934 salaries in December in recognition of their excellent work during the year.

Effective January 1, newspaper and radio advertising on "Oakite," household cleaner, product of Oakite Products, Inc., New York, will be placed by Calkins & Holden, Inc., New York. Business-paper advertising for "Oakite" industrial cleaning materials in the industrial market will continue to be placed by Rickard & Company, New York.

Procter & Gamble Co. is reported to have purchased the Gwynne Building in Cincinnati. Most of this building is at present taken up by offices of the company.

Barbasol Co., Indianapolis, has acquired a new three-story building at 814 North Senate Avenue, which will provide 100,000 additional square feet of floor space for manufacturing needs. The company is also adding to its main plant at Senate Avenue and 9th Street.

Blackett-Sample-Hummert, Inc., advertising agents, have been appointed to conduct a test campaign in three metropolitan areas on "Bab-O" for B. T. Babbitt, Inc. The "Bab-O" test campaign will be under the direction of Duane Jones.

Joseph Abraham, a chemist for Frederick Stearns & Co., Detroit, was killed in an automobile accident in front of his home at Mount Clemens, Mich., last month. Mr. Abraham, a native of England, was seventy-two years old.

Pine Tree Products, Inc., of Newport, N. H., has announced that it will begin the manufacture of its products in Toronto, Canada, in the near future. No new plant will be built in Canada, but arrangements will be made with an established soap-making concern to manufacture "Billy B. Van's Pine Tree Soap."

Diamond Cleanser & Soaps, Ltd., Toronto, Canada, has moved to new quarters at 1190 King Street, West.

An NRA administrative order has just been issued exempting Eaton, Clark Co., Detroit, from the wage and hour provisions of the Soap and Glycerine Manufacturing Code.

The rise and decline of Sapolio and its "Spotless Town" advertising which carried the product to its peak some thirty years ago, are described in the January issue of *Fortune*. It tells of the early history of Enoch Morgan in the soap and candle business after his arrival from Wales in 1805 and how his son, John W. Morgan, began the manufacture of Sapolio in 1869.

In the recent trial of the suit of Procter & Gamble Co. and the Colgate-Palmolive-Peet Co. against the Lever Brothers Co. for alleged patent infringement in the case of Rinso, held at South Bend, Ind., the fastest moving pictures in the world, 6,000 exposures per minute, were shown by Walter L. Fleischer to demonstrate the tower process in the manufacture of globular and grandular soap products.

Employes of Fels & Co., Philadelphia, shared in a Christmas bonus which represented from 12 to 25 per cent of each worker's yearly earnings, the amount of each bonus being determined by grade and length of service. In announcing the bonus Samuel S. Fels, president of the company, said: "This extra distribution serves two purposes. First, it provides a Christmas bonus for the employes. Equally important, we feel, is the stimulating effect extra payments of this kind have upon the general trend of business. We feel that there could be no better time to put more purchasing power in the hands of the people than immediately prior to the holidays."

Dwaine Kramer Healy is now president of the Groville Sales Coroporation, New York, perfumes and cosmetics. He was formerly associated with Colgate-Palmolive-Peet Company and, more recently, has been advertising manager of the Hudnut Sales Company.

Introducing SODIUM SESQUISILICATE

A *New* METSO DETERGENT!

METSO
ACTIVE ALKALI

SODIUM METASILICATE
U. S. PAT. 1898708
SODIUM SESQUISILICATE
U. S. PAT. 1948730

THE YOUNGEST member of the P. Q. Silicate family is Metso 99, sodium sesquisilicate. This is a white granular powder freely and completely soluble in water, with only a slight positive heat of solution. Metso 99 contains approximately 36.89% Na_2O, 23.83% SiO_2, 39.2% H_2O, and produces a pH of 11.6 at a concentration of .1% (by weight).

While Metso 99 is the most alkaline silicate commercially available, it shares with other silicates the valuable properties of free rinsing, buffered alkali and to a degree, inhibiting power necessary in cleansers.

The uses for Metso 99 with its high, though controlled Na_2O content, are found in heavy duty cleaning; for instance; the removal of paraffin oils, drawing compounds and fabricating greases from metal; in laundries, where a higher pH is desired; in some textile operations.

Try Metso 99 for any difficult cleansing operation in your plant. It is safer than corrosive caustic and more efficient. The coupon below brings you a sample and more information.

PHILADELPHIA QUARTZ COMPANY

PLEASE send a sample of Metso 99 with directions for

_____
(fill in use)

TO _____

_____

_____

S-1

General Offices and Laboratory: 125 S. Third Street, Philadelphia. Chicago Sales Office: Engineering Building. Stocks in 60 cities. Sold in Canada by National Silicates Ltd., Toronto, Ontario.

Oakite Products, Inc., have been conducting a concentrated sales promotion drive in the Chicago area recently, where several hundred thousand four-ounce sample packages of "Oakite" have been distributed. The samples are distributed by men in uniform who also pass out a "Recipe Chart on Cleaning."

Wonder Worker Products, Ltd., Montreal, Canada, has occupied new quarters at 442 Victoria Avenue.

Pawley Chemical Co., polishing and cleaning products, whose factory is located at Cohoes, N. Y., has recently opened general and sales offices at 1501 Broadway, New York. The company has been in operation for about seven months, and was recently incorporated. George A. Pawley, president, was formerly interested in the Pawley Co., Albany, outdoor advertising.

Lever Bros. is offering $25 for each letter accepted by them for use in advertising based on a "B.O" story from actual life. It is planned to use these true life stories without mention of the names involved.

Dwaine K. Healy became president of Groville Sales Corporation, effective December 1, 1934. This concern holds sales agencies for Potter & Moore Mitcham Lavender products of London, Parfums Grenoville of Paris, and Margaret Blair Cosmetics. Mr. Healy was formerly connected with Colgate-Palmolive-Peet Company and with Richard Hudnut.

Andrew Jergens Co. of California, is erecting a $10,000 factory building at Burbank, California.

W. R. Veale, manager of the toilet articles department of Colgate-Palmolive-Peet Co., has been elected to membership on the Code Authority for the Perfume, Cosmetic and Other Toilet Preparations Industry, succeeding Jean Despres, resigned. Mr. Veale has been with Colgate for twelve years, having formerly been vice-president and general manager of the Argentine subsidiary.

Employes of Procter & Gamble Co. are to share in a special distribution of 4 per cent under the company's profit sharing plan on 1934 earnings, in addition to the regular dividends which range from 6 to 12 per cent. Employes eligible to benefit number around 8,000, and include those whose salaries are $2,000 a year or less.

O. B. Soap Co., Buffalo, has recently moved to 1750 Main Street.

Colgate-Palmolive-Peet Company has lately been running a number of tests on a new box for "Super Suds," utilizing the toy cut-out plan of making the package more attractive and useful. The company's advertising pictures the box, and some of the toys which can be cut from it.

Leon Livingston Advertising Agency, San Francisco, has been appointed to handle the advertising account of the Newell Gutradt Company, San Francisco.

Compagnie Parento, Inc., Croton-on-Hudson, N. Y., has issued its annual "Catalogue and Perfumer's Manual," listing the various essential oils, synthetic aromatics, resins, etc., which constitute its line.

George Frolich, formerly vice-president and general sales manager of United Drug Co., Boston, has been advanced to the newly created position of director of research and technology. John E. Fontaine, formerly assistant general sales manager and advertising manager, becomes general sales manager. The new assistant sales manager is John M. Considine.

The annual meeting of the Foragers of America was held at the Herald Square Hotel, New York, December 26. The organization named Harry D. Folsom as president for the coming year, with W. W. Nielson, vice-president, and O. C. Niedenstein, secretary-treasurer. The 37th annual dinner of the Foragers is being held January 15th at the Hotel Astor.

Federal Judge John P. Neilds in a recent ruling allowed registration by A. J. Krank Co. of its "Shadow Line" trademark in spite of the objections entered by Delaware Cosmetics, Inc., and Marinello Corp.

Trade Laboratories, Inc., private formula house of Newark, N. J., has moved to 412 Halsey Street, where additional space is afforded for its expanding business.

W. R. Kerner, formerly a sales executive with Colgate-Palmolive-Peet Company, has been appointed sales manager of Pepsodent Company, Chicago.

Application for a second temporary injunction to restrain National Milling & Chemical Co., Philadelphia, from manufacturing or selling any red, carbolic-type health soap which could be classed as an imitation of "Lifebuoy" was argued January 14 by the legal representatives of Lever Bros. Co. The Lever action against J. Eavenson & Sons, Camden, is one the current Jersey court calendar, and according to present indications will be reached for trial in late February or early March.

Metal Package Corp. reports acquisition of Colonial Can Co. of Boston, which will become a division of the parent company. A policy of expansion of the interests of Metal Package Corp. in the New England territory is contemplated.

Mrs. Laura Kerrigan, wife of James J. Kerrigan, vice-president and director of sales of Merck & Co., Rahway, N. J., died at the Kerrigan home in Summit, December 28, after a short illness.

RECORD OF TRADE-MARKS

The following trade-marks were published in the December issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

TRADE MARKS FILED

P M C—This in solid letters describing soap flakes, chips, stock, cleaning compound, etc. Filed by Paper Makers Chemical Corp., Wilmington, Sept. 28, 1934. Claims use since 1910.

OLIM—This in solid letters with diamond-shaped border, describing washing powder. Filed by Edward Longi, New York, Oct. 3, 1934. Claims use since Sept. 24, 1934.

CRYSTAL SPRAY—This in heavy script describing glass cleaning preparation. Filed by Hooker Glass & Paint Mfg. Co., Chicago, Oct. 4, 1934. Claims use since Dec. 1, 1932.

ZOFF—This in solid letters with sketch of hand describing paste soap. Filed by Zoff Co., St. Joseph, Mo., Oct. 4, 1934. Claims use since Sept. 19, 1934.

ZEM-ZEM—This in outline letters describing shampoo. Filed by Zem-Zem Corp., New York, Oct. 3, 1934. Claims use since June 1, 1933.

NU-JOY—This in solid letters describing insecticide. Filed by McWilliams Mfg. Co., Tipton, Ind., Oct. 13, 1934. Claims use since July 10, 1934.

RAINBOW—This in solid letters against background representing a rainbow, describing cleaning compound, disinfectant, etc. Filed by Naylee Chemical Co., Phila., Oct. 16, 1934. Claims use since May 1, 1933.

COMET—This in solid and reverse letters on reverse plate showing comet and stars, describing insecticides, germicides, etc. Filed by M. Vonsen Co., Petaluma, Cal., Oct. 22, 1934. Claims use since May 1, 1934.

NIVEA—This in solid letters describing soap. Filed by P. Beiersdorf & Co., New York, July 25, 1930. Claims use since July 16, 1930.

SAFE-T-GLOSS—This on reverse plate showing man cleaning window, describing cleaning and polishing preparation. Filed by United Necessities Corp., Bartlesville, Okla., June 11, 1934. Claims use since Mar. 6, 1934.

PRONTO—This in solid letters describing detergent. Filed by Wilson Chemical Co., Rye, N. H., Aug. 13, 1934. Claims use since July 1, 1932.

DABON—This on reverse plate describing brushless shaving cream. Filed by Dr. Brown's Laboratories, Brooklyn, Oct. 12, 1934. Claims use since Jan. 1, 1932.

RATHER LATHER—This in script on reverse plate describing shaving cream and soap. Filed by Dudley B. Wade, Jr., Lagrange, Ga., Oct. 20, 1934. Claims use since Nov. 22, 1933.

TRIPLE-MINT—This on reverse plate describing tooth paste. Filed by J. R. Brundage, Inc., New York, Oct. 11, 1933. Claims use since Aug. 28, 1933.

9 IN 1—This in solid letters describing insecticide. Filed by Star Products Co., Chester, Pa., Sept. 24, 1934. Claims use since December, 1932.

SANI-RINZ—This in solid letters describing disinfectant. Filed by Mt. Hood Soap Co., Portland, Ore., Oct. 5, 1934. Claims use since Sept. 12, 1934.

OGEN—This in solid letters describing insecticides, disinfectants, fungicides, etc. Filed by Rose Mfg. Co., Phila., Oct. 5, 1934. Claims use since Sept. 1, 1924.

BLACK DART—This in solid letters with arrow and sketches of insects describing insecticides. Filed by McCormick & Co., Baltimore, Oct. 6, 1934. Claims use since Dec. 1, 1932.

MULT-APPLY—This in solid letters describing antiseptics, germicides, etc. Filed by C. A. Mosso Laboratories, Chicago, Oct. 18, 1934. Claims use since Jan. 2, 1934.

AZOCHLORAMID—This in solid letters describing antiseptic and germicide. Filed by Wallace & Tiernan Products, Inc., Belleville, N. J., Nov. 1, 1934. Claims use since Nov. 30, 1932.

RUTHERFORD'S—This in solid letters describing wall paper cleaner. Filed by Wm. Rutherford, Chicago, Apr. 2, 1934. Claims use since 1893.

ACTEX—This in solid letters describing industrial cleanser. Filed by Du Bois Soap Co., Cincinnati, Aug. 20, 1934. Claims use since June 29, 1934.

FABRIKFOAM—This in solid letters describing rug shampoo. Filed by Fischer's Surfa-Saver, Inc., Cincinnati, Oct. 8, 1934. Claims use since July 10, 1933.

VIRAY—This in type resembling script describing soap. Filed by Los Angeles Soap Co., Los Angeles, Nov. 8, 1934. Claims use since Oct. 22, 1934.

SIBUR—This in solid letters describing moth-proofing liquid. Filed by Sibur Moth Proof Service, Bellingham, Wash., June 9, 1934. Claims use since June 1, 1932.

COMET—This in solid and reverse letters on plate showing comet and stars, describing insecticides, vermicides, etc. Filed by M. Vonsen Co., Petaluma, Cal., Oct. 22, 1934. Claims use since May 1, 1934.

WONDER GLO—This in solid and outlined letters describing cleansing compound. Filed by Wonder Products, Canton, Ohio, June 13, 1934. Claims use since June 13, 1932.

MIRAX—This in solid letters describing cleaning powder. Filed by Mirax Chemical Products Corp., St. Louis, July 16, 1934. Claims use since Apr. 1, 1932.

REVERSE PLATE showing soap package, three quart bottles of water and bucket of soap solution, describing powdered preparation to be mixed to form hand soap paste. Filed by Mix-It Hand Soap Co., West Somerville, Mass., Oct. 11, 1934. Claims use since May 6, 1932.

NU-A-LU—This in solid letters describing aluminum cleaner. Filed by Nu-A-Lu Co., Jackson Heights, N. Y., Nov. 1, 1934. Claims use since Oct. 25, 1934.

VIV—This in solid letters describing wax polish. Filed by Paper Makers Chemical Corp., Wilmington, Sept. 18, 1934. Claims use since Aug. 21, 1934.

TRADE MARKS GRANTED

319,622. Tooth Powder. Benjamin Brock, Buffalo. Filed April 10, 1934. Serial No. 349,769. Published September 25, 1934. Class 6.

319,623. Tooth Paste. Lambert Pharmacal Co., Wilmington. Filed April 9, 1934. Serial No. 349,729. Published September 25, 1934. Class 6.

319,626. Germicide and Antiseptic. Rutherford Laboratories, Rutherford, N. J. Filed March 29, 1934. Serial No. 349,280. Published September 25, 1934. Class 6.

319,653. Insecticides and Cattle Sprays. Fleet-Wing Corp., Cleveland. Filed July 21, 1934. Serial No. 354,151. Published September 25, 1934. Class 6.

319,654. Antiseptic Powder. Universal Laboratories, Dallas. Filed July 21, 1934. Serial No. 354,154. Published September 25, 1934. Class 6.

319,693. Germicide, Northern Research Labs., Minneapolis. Filed July 29, 1933. Serial No. 340,232. Published September 25, 1934. Class 6.

319,699. Cleaning Preparation. Tasso Co., South Bend, Ind. Filed July 3, 1934. Serial No. 353,489. Published September 25, 1934. Class 4.

319,707. Hand Soap and Household Cleaning Preparation. Green Lite Laboratory, Northampton, Pa. Filed July 18, 1934. Serial No. 354,051. Published Sept. 25, 1934. Class 4.

319,708. Soap for Dogs. Mercirex Co., Milford, Del. Filed July 18, 1934. Serial No. 354,049. Published September 25, 1934. Class 4.

319,723. Liquid Antiseptic. Gum-Num Co., Newark, N. Y. Filed June 28, 1934. Serial No. 353,283. Published September 25, 1934. Class 6.

319,762. Shaving Cream. Robert Williamson Storrs, Jr., Richmond, Va. Filed August 10, 1934. Serial No. 354,878. Published September 25, 1934. Class 4.

319,897. Wall-Paper Cleaner. Omar Products Co., Columbus, Ohio. Filed August 1, 1934. Serial No. 354,525. Published October 2, 1934. Class 4.

319,900. Shampoo. R. B. Semler, Inc., New York. Filed August 4, 1934. Serial No. 354,662. Published October 2, 1934. Class 6.

319,918. Shoe Polish and General Cleaning Preparation. William A. Regan, Washington, D. C. Filed April 12, 1934. Serial No. 349,889. Published October 2, 1934. Class 4.

319,925. Soaps. Frank R. Eager, Wilmette, Ill. Filed May 12, 1934. Serial No. 351,261. Published October 2, 1934. Class 4.

319,929. Paper Towels and Paper Soap Sold as a Unit. Roybar & Co., Chicago. Filed May 21, 1934. Serial No. 351,652. Published August 7, 1934. Class 4.

Mechanics' Cleansing Paste. S. H. Kress & Co., New York. Filed August 9, 1933. Serial No. 340,563. Published October 2, 1934. Class 4.

319,947. Shaving Creams, Soap Powders and Toilet Soaps. Ace Manufacturing Co., Chicago. Filed February 28, 1933. Serial No. 335,409. Published October 2, 1934. Class 4.

319,949. Shoe Polish. Manhattan-Kreole Products, Inc., New York. Filed March 28, 1932. Serial No. 325,589. Published October 2, 1934. Class 4.

319,960. Insecticide Sprayer. Pestolator Corp., New York. Filed July 21, 1934. Serial No. 354,168. Published October 2, 1934. Class 23.

319,962. Germicides, Antiseptics and Mouth Wash. Iodine Pharmacal Co., New York. Filed August 15, 1934. Serial No. 355,026. Published October 2, 1934. Class 6.

319,963. Tooth Powder. Dental-teen Laboratories, Los Angeles. Filed August 17, 1934. Serial No. 355,098. Published October 2, 1934. Class 6.

320,007. Soapy Composition. Paper Makers Chemical Corp., Wilmington. Filed August 22, 1934. Serial No. 355,322. Published October 9, 1934. Class 4.

320,014. Insecticides. Sherwin-Williams Co., Cleveland. Filed August 23, 1934. Serial No. 355,373. Published October 9, 1934. Class 6.

320,114. Bath Salts. Alice Martin Corp., New York. Filed July 21, 1934. Serial No. 354,163. Published October 9, 1934. Class 6.

320,182. Rat, Mouse, and Gopher Poison. L. G. Chemical Co., Council Bluffs, Iowa. Filed July 9, 1934. Serial No. 353,742. Published October 9, 1934. Class 6.

320,251. Toilet, Laundry and Industrial Soaps. Beaver-Remmers-Graham Co., Cincinnati. Filed July 25, 1934. Serial No. 354,335. Published October 9, 1934. Class 4.

320,258. Antiseptic Douche. Table Rock Laboratories, Inc., Greenville, S. C. Filed July 30, 1934. Serial No. 354,451. Published October 2, 1934. Class 6.

320,305. Tooth Powder. A. B. Ward, Los Angeles. Filed June 15, 1934. Serial No. 352,765. Published October 16, 1934. Class 6.

320,380. Fumigant. Michigan Alkali Co., Wyandotte, Mich. Filed August 2, 1934. Serial No. 354,570. Published October 16, 1934. Class 6.

D&O
ESTABLISHED IN 1798

ESSENTIAL OILS
SYNTHETIC AROMATICS
COMPOUNDED PERFUME BASES
For the Soap and Insecticide Industries

AUBEPINE

as originating in our laboratories is 100% pure and is suited for all products, especially in fine soaps.

HELIOTROPINE

We are headquarters for this excellent quality product and solicit contract orders.

COUMARIN

We supply the superior "Maywood" brand as well as

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SPECIALLY PURIFIED
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"The integrity of the house is reflected in the quality of its products".

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PATENT AND TRADE-MARK CAUSES

815 15th St., N. W., Washington, D. C.

Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine and Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 1979,399, Dry Cleaning Process. Patented Nov. 6, 1934, by Ralph A. Morgen, Kansas City, Mo. In the process of dry cleaning including application to the articles to be cleaned of a non-aqueous solvent and a detergent having alkalinity sufficient for substantially neutralizing the fats and the fatty acids in the detergent and those transferred to the solvent from the articles being cleaned, purifying the solvent with a clarifying agent having an alkaline content balanced with alkalinity of the detergent to effect substantially complete removal of fatty acids and fats in the solvent by adsorption thereof by the clarifier.

No. 1,981,123, Disinfectant. Patented Nov. 20, 1934, by James N. Roche, Pittsburgh, Pa., assignor to American Tar Products Co. A disinfectant consisting of a dispersion containing a dispersing agent, water, chlorophenolic material to the extent of 2 per cent to substantially 60 per cent; and substantially 10 per cent up to substantially 63 per cent of hydrocarbon oil selected from at least one of a group consisting of neutral coal tar oil, hydrocarbon oils of neutral coal tar oil, petroleum, its fractions, water gas tar, and shale tar.

No. 1,982,241, Removing Sodium Hydroxide from Potassium Hydroxide. Patented Nov. 27, 1934, by Charles Julian Aydelotte, Wilmington, Del., Waldo R. Caverly, Carneys Point, N. J., and Walter H. Wright, Wilmington, Del., assignors to E. I. du Pont de Nemours & Company, Wilmington, Del. A process of removing caustic soda from a mixture thereof with caustic potash, which comprises treating a solution of the mixed caustic with sulfur dioxide and separating the sodium sulfite which forms.

No. 1,982,268, Depilatory Soap. Patented Nov. 27, 1934, by Emery Roth and Leo Spira, Chicago, Ill. A depilatory composition comprising in physical admixture a substantially dehydrated alkaline earth metal depilatory sulphur-base compound, and a substantially dehydrated soluble soap capable of forming with the depilatory compound an insoluble soap, the materials being present together in the absence of any substantial amount of water which would if present cause hydrolysis of, or deterioration of, or interaction between the materials.

SAYS SOAP CAN RETAIN TEXTILE MARKET

Stating that soap is still the best all around textile detergent and that it can retain its textile market as a result of the commercial availability of sodium metaphosphate, G. W. Smith, general manager of Calgon, Inc., Pittsburgh, criticizes an editorial in the last issue of *Soap* which discussed the loss of the textile scouring market by soap makers. His letter stated in part:

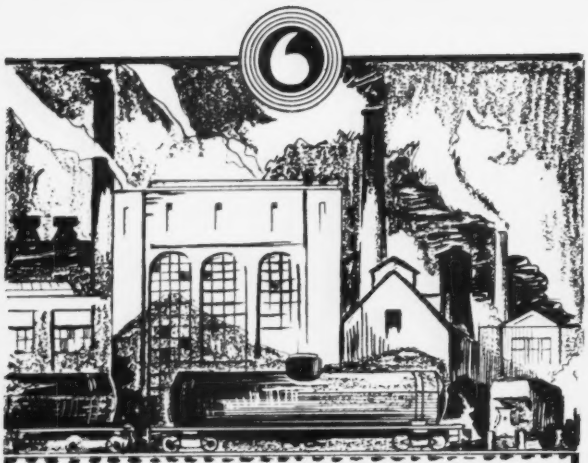
"'Whether the fibre be wool, cotton or silk, its washing with soap in the mill has the same drawback,—the insolubility of lime and magnesia soaps, and the instability of soaps in the presence of acids.' This quotation from your editorial in the December issue of *Soap* portrays a defect without remedy until recently. At this date, to acquiesce in the loss to soap manufacturers of much of their textile market is, in my opinion, a defeatist attitude wholly unnecessary in a journal whose very title indicates the object of its loyalty.

"Admittedly, great progress has been made in the non-saponaceous scouring of textiles and in the development of detergent and penetrating agents, stable in the presence of acid. Such products are uniquely suited to many applications, and in others are better suited than soap would ever be. This, however, is no argument for the displacement of soap from those scouring, rinsing, and other detergent operations where, were it not for the hardness of the water used, soap would be the instant and universal choice of all mill operators.

"It is now possible by the addition of a single chemical to hard water to soften that water without precipitation or removal of the calcium and magnesium. Water softened in this manner has 'negative hardness', in that it not only is soft but is capable of dissolving calcium and magnesium soaps and other insoluble compounds without becoming hard. Whether the fibre be wool, cotton or silk, it can now be washed with soap in the mill without the drawback of the insolubility of lime and magnesia soaps. The chemical which makes this statement possible, as is no doubt known to you, is sodium metaphosphate."

A concern in Jaffa, Palestine, is interested in purchase of American toilet and shaving soaps. Interested concerns may obtain further particulars by addressing the Bureau of Foreign & Domestic Commerce, Washington, mentioning reference number 7985.

A reader of SOAP will appreciate being advised of the address of the firm offering a new can for cleansers under the trade name "Can-Velope." The publishers will greatly appreciate receiving this information. Address in care of SOAP, 254 West 31st Street, New York.



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CHICAGO

CONTRACTS AWARDED

R. M. Hollingshead Co., Camden, N. J., has been awarded a contract covering 1,600 gals. liquid metal polish for the U. S. Post Office Department, Washington, at a price of 34c.

Armour & Co., Chicago, has been awarded a contract covering 910,020 lbs. laundry soap for the Chicago U. S. Army Quartermaster at a price of 2.75c. Hunnewell Soap Co., Cincinnati, was awarded contract for 75,000 cakes grit soap at 1.85c.

Day & Frick, Philadelphia, has been awarded a contract covering 500 cakes grit soap for Rock Island Arsenal at 2.25c. Green Oil Soap Co., Chicago, awarded 2,200 lbs. leather equipment soap at 8.2c. Crystal Soap & Chemical Co., Philadelphia, awarded 51,000 lbs. soft soap at 3.92c. No award was made on 9,000 lbs. soap powder and this bid will be readvertised.

The following awards have been made by the Fort Sam Houston U. S. Army Quartermaster on bids for laundry supplies: Rosenberg Bros., San Antonio, Texas, 275 lbs. coconut oil soap, 12c.; Carman Supply Co., Houston, Texas, 50 lbs. coconut oil soap, 11c.; Colgate-Palmolive-Peet Co., Jersey City, 3,600 lbs. soap chips, 7.25c.; Armour & Co., San Antonio, 20,520 lbs. soap chips, 6.339c.; Swift & Co., San Antonio, 14,040 lbs. soap chips, 6.33c., and 225 lbs. neutral soap, 6.8c. and Collins & Co., San Antonio, 6,260 lbs. soap chips at 6.4c.

The Army Supply Base, Brooklyn, has made the following awards on soap contracts: Swift & Co., 3,000 pounds of soap powder at 6.34 cents; 4,000 pounds of soap powder at 6.17 cents; 4,000 pounds of soap powder at 6.42 cents; 3,000 pounds of soap powder at 6.17 cents; 3,500 pounds of powdered soap at 6.17 cents, and 2,000 pounds of soap at 6.58 cents; Sterling Supply Company, 2,000 pounds of soap powder at 6.16 cents; B. T. Babbitt & Co., 2,000 pounds of chloride of lime at 5.25 cents; Pennsylvania Salt Manufacturing Company, 4,000 cans of caustic soda at 4.59 cents; S. Weinstein Supply Company, 7,000 gallons of solvent at 17.44 cents.

Kirkman & Son, Brooklyn, was low bidder on 3,750 lbs. toilet soap for Panama Canal in a recent U. S. Government bidding, with a quotation of $238.88. The same concern entered the low bid of $261.75 on 7,500 lbs. laundry soap. Colgate-Palmolive-Peet Co., Jersey City, was low bidder on 5,000 lbs. chip soap, with a quotation of $296.50. Armour & Co., Chicago, was low bidder on 10,000 lbs. soap powder, with $198. Stevens Soap Corp., Brooklyn, was low on 10,000 lbs. trisodium phosphate, bidding $384.

Pennsylvania Salt Manufacturing Co. has been awarded a contract covering 35,040 cans of caustic soda for the Chicago U. S. Army Quartermaster at a price of 4.13c.

APPOINT PERFUME CODE COMMITTEES

The following new committees were appointed by the code authority for the perfume, cosmetic and other toilet preparations industry at the December meeting:

Trade practice compliance:—William Jacobs, George W. Button Co.; J. H. McShane, Pacquin Laboratories; R. Grant, Veolay, Inc.; H. L. Broocks, Coty, Inc.; R. A. Clark, Inecto, Inc.

Trade practice planning and statistics:—F. N. Dodge, Harriet Hubbard Ayer Co.; J. Despres, Coty, Inc.; C. Pennock, Hudnut Sales Co.; P. Vallee, Roger & Gallet; W. R. Veale, Colgate-Palmolive-Peet Co., and J. I. Poses, Vantine, Inc.

Inter-code relations:—R. A. Clark, Inecto, Inc.; H. S. Lyon, Comfort Manufacturing Co., Chicago, and W. R. Veale, Colgate-Palmolive-Peet Co.

Charles L. Huisking & Co., New York, celebrated the twenty-fifth anniversary of the founding of the company on Jan. 1. The company was founded by Charles L. Huisking, its present head, and for over twenty years was located at 5 Platt St., New York. In 1931, it was moved to larger quarters at 155 Varick St. In its history, the company has been perhaps the best known firm of commission merchants in the country in the field of chemicals, essential oils, drugs, and allied products. The present officers include Charles L. Huisking, president; Peter A. Dirr, vice-president; Joseph A. Huisking, secretary; William J. Dawson, treasurer. The company is associated with the London firm of Wheeler & Huisking, Ltd.

Eastern Industries, Inc., 125 Bergen St., Harrison, N. J., has been formed by Sidney P. Craven and William B. Mullen to deal in vegetable and animal oils and fats. Mr. Mullen has been associated with Welch, Holme & Clark Co. for the past twenty years and Mr. Craven has been with the same firm since April, 1931. Prior to that time he was secretary of Edward W. Flash Co., New York. The new company has acquired storage facilities and plans to import oils in bulk.

Market Report on

TALLOW, GREASES, AND OILS

(*As of January 8, 1935*)

NEW YORK—A vigorous continuation of the upward swing in oil and fat prices this period left this group at its yearly peak as 1934 ended. The first week of the new year also showed the same upward trend, with renewed demand evident after the inventory period. In the face of declining stocks abroad, foreign sellers restricted their offerings closely. Prices as a result were sharply higher on almost the entire group of soap-making oils. The explanation for the sharp rise in fat prices over recent weeks seems to be that stocks of low-priced raw materials are being rapidly exhausted. As soap makers again come into the market for replacements, the inevitable result is to bid up the price level.

COCONUT OIL

Both copra and coconut oil were sharply higher this period. Copra is quoted currently at 2¼c lb., with offerings light. The Philippine crop is far below normal as a result of damage from the typhoon. Manila oil was up almost a cent a pound this period, with New York tanks being quoted currently at 4¼c lb.

CORN OIL

The corn oil market was rather quiet this period, with prices holding firm. Stocks are still light and there is no increase in offerings. Mill tanks are quoted nominally at 9¾c.

COTTON OIL

Speculative sentiment in the cottonseed oil market continued bullish this period, in company with the continued strength in lard prices. Offerings from southern oil producers were light. Crude was quoted at 9½c lb. at the end of the period.

GREASE

Greases advanced ¾c per pound this period in company with the rest of the market. Yellow and house grades are quoted currently at 5¼c in an inactive market.

PALM OIL

Activity in the palm oil market was stimulated by higher prices in competing products this period, with the result that palm oil was in greater demand and advanced about ¼c per pound. Niger oil is quoted currently at 3½c to 3¾c per pound.

TALLOW

Tallow, which has not been moving ahead as fast as most other soap making raw materials recently, joined the rest of the group this period with an advance of ¾c per pound. Demand was not particularly heavy, although it showed a tendency to increase after the inventory period. The current market for city extra is 5⅝c per pound.

Jungmann & Co., New York, are placing on the market a new type water- and oil-soluble lecithin. Tests are being conducted by the company on application of this new product in the manufacture of soaps and toilet preparations.

—— ♦ ——

The reply of Bristol-Myers Co. to the Federal Trade Commission, which recently cited the company for its refusal-to-sell policy, is pointed by the statement that Bristol-Myers feels under no compulsion to sell to any distributor unless it sees fit. The company denies most of the specific charges brought by the Commission and denies also that its sales policies constitute unfair methods of competition. In individual cases, it is stated, the company reaches its own conclusions whether or not to begin selling, continue to sell, or resume sale to persons placing orders.

—— ♦ ——

Addington Doolittle, president of Compagnie Parento, Inc., Croton-on-Hudson, New York, sailed for Europe on the *S. S. Manhattan*, January 3, on a business trip which will take him to France, England, Italy, Bulgaria and Africa. Upon his return it is stated that an important announcement will be made regarding additional connections abroad. At present Compagnie Parento handles the line of Pierre Dhumez & Co., in United States and Canada. Another development of importance is the acquisition of the firm of Irving Bennett & Co. Mr. Bennett will join Compagnie Parento and will devote his efforts particularly to special sales service. Mr. Bennett has been active in the field of perfuming materials for a number of years, he having at one time been associated with Antoine Chiris Co., New York, both in United States and Canada.

—— ♦ ——

Louis Amic, Establissements Roure Bertrand Fils & Justin Dupont, Paris and Grasse, France, sailed for home December 29, on the *S. S. Ile de France*, after spending six weeks in United States and Canada. While in New York Mr. Amic made his headquarters with George Silver Import Co., American representatives of his house.

—— ♦ ——

M. G. Couderchet, formerly with Bruno Court, Grasse, France, has joined the aromatics division of Naugatuck Chemical Co., New York, American sales agents for Bruno Court. The Naugatuck aromatic division is under the direction of B. T. Bush.

—— ♦ ——

The December issue of the house organ of Industrial Chemical Sales Co., New York, appeared in enlarged pictorial form last month. Copies may be obtained by addressing the company at 230 Park Avenue, New York.

Market Report on

SOAP AND DISINFECTANT CHEMICALS

(As of January 8, 1935)

NEW YORK—The market for soap and disinfectant chemicals was a quiet affair during the period just closed, with the holiday season and the approach of the inventory period cutting down withdrawals as usual at this time of the year. Chemical producers go into 1935, however, with prospects for a good increase in business, as bookings for the first quarter of the new year are reported well ahead of 1934 figures. A rather remarkable feature of the recent contracting season has been the surprising firmness which has prevailed in alkali prices in spite of the substantial additions made recently to productive capacity.

ALKALIS

Alkali producers go into 1935 with a substantial tonnage of business booked for the first quarter of 1935. If withdrawals are up to normal a good increase over 1934 figures can be expected. Prices are holding firm in all reported quarters.

CREOSOTE OIL

Producers advanced quotations on 1935 contracts by ½c per gallon late last month, with grade 1 in tanks being offered at 11½c to 12½c. Refined oil is unchanged at 17½c to 18½c per gallon.

NAPHTHALENE

This market continues to be highly competitive, with the keenness of the competition being increased by recent heavier imports of crude material. A reduction of ½c per pound was announced some time ago to apply on 1935 contracts.

ROSIN

The naval stores markets were seasonally inactive this period, with prices fluctuating within very narrow limits. The outlook for 1935 is somewhat more encouraging for producers in spite of the rather heavy stocks being held at shipping points. Holdings in the hands of consumers are believed to be light and some increase in consumption is looked for in the first quarter of 1935.

◆

The new Lake Charles, La., plant of Mathieson Alkali Company is now expected to be in operation early in February, a change in plans making it necessary to abandon the previous arrangement for a late December opening.

◆

Budd Aromatic Chemical Co., New York, has recently issued a reference book describing its complete line of products. Included in the group are basic perfume specialties, essential oils, deodorizing block perfumes, theatre spray perfumes, bath salt perfumes, insecticide spray perfumes, industrial deodorants, soap specialties, etc.

Another soap factory is being opened by the Federal Emergency Relief Administration, this latest one being located in Paris, Ky. Thirty men will be employed, each working two days a week, to produce laundry soap for the use of those on the relief lists.

◆

Net profit of Walgreen Co. for the year ended Sept. 30, amounted to $2,558,895, after all charges. This is equivalent after dividends on the preferred stock to $3 a share on 763,285 no-par shares of common stock.

◆

FRITZSCHE-SCHIMMEL AGENCY TERMINATED

The agency in the United States for Schimmel & Co., of Miltitz, Germany, one of the best-known producers of perfuming materials in the world, was terminated January 1, according to an announcement by Fritzsche Brothers, Inc., New York, agents since 1919. Schimmel & Co. have established their own branch in the United States with headquarters at 601 West 26th Street, New York. Fritsche Brothers, in addition to their headquarters in New York and branch offices in various American cities, maintain a Canadian branch and a plant in the South of France.

The official statement from Fritsche Brothers stated: "The agency relation established after the World War between Schimmel & Co., A. G. Miltitz, Germany, and Fritsche Brothers, Inc., New York, has now been terminated. The decision was arrived at in a very friendly spirit and in the belief that it accorded with the best interests of both principals. Those familiar with the growth of our firm will recognize this as a natural development. To our long standing policy of handling only our own products, the agency for Schimmel & Co.'s specialties has formed the sole exception. Our increasing development during recent years has therefore, made this step logical. It brings with even larger opportunities for serving the interests of our friends and customers with the same high degree of efficiency which has distinguished our dealings for over sixty years."

◆

At the annual meeting of the Synthetic Organic Chemical Manufacturers' Association held in New York last month, August Merz, Calco Chemical Co., Bound Brook, N. J., was re-elected president. Following the meeting at the Chemists' Club, New York, was the annual dinner, with Irenee Du Pont as toastmaster. On behalf of the association he presented plaques, signifying honorary membership in the association to Francis P. Garvan, president of the Chemical Foundation, Inc., New York; Dr. Charles H. Herty, consulting chemist, and Morris R. Poucher.

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Castor Oil
Sesame Oil
Lard Oil
Palm Oil
Corn Oil
Peanut Oil
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Tallow
Red Oil
Soap Colors
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CARBON TETRACHLORIDE

Market Report on

ESSENTIAL OILS AND AROMATICS

(*As of January* 8, 1935)

NEW YORK—The market for essential oils and aromatic chemicals continued quiet through the closing weeks of 1934, with buyers restricting purchases as much as possible to keep stock low over the year-end period. Business was still quiet in the first week of the new year, but the essential oil trade generally looks forward to slowly improving business. The year just concluded was a far more satisfactory one from the standpoint of activity and profits than any for the past five, for most concerns, and the trade looks for continuance of the upswing during 1935.

BOIS DE ROSE

The market was steady this period, with prices holding unchanged on both Brazilian and Cayenne oil.

CANANGA OIL

With demand showing a tendency to pick up after the first of the year, cananga oil was in much firmer position and several advances brought the price up to an inside figure of $2.50 for native oil. Stocks are strictly limited, lending strength to the position of sellers.

CASSIA OIL

Demand for this oil is picking up, with the result that the market is holding in firm position. The inside price advanced from $1.15 a month ago to $1.20.

GERANIUM OIL

Spot quotations on geranium oil were advanced this period in line with the increasing cost of replacement stocks. The inside quotation on African oil was $5.25 and that on Bourbon oil $4.85.

LAVENDER OIL

Lavender oil continued to advance in price during the period just closed, with the price range now stretching from $3.00 to $7.00. The market is in very firm position and promises to continue so at least until another crop comes in. The small stocks of high quality oil held abroad are in very strong hands and the prospect for the next few months is that prices will be firmly maintained.

SANDALWOOD OIL

Lower quotations have been current recently on sandalwood oil and the present market level ranges from $5.00 to $5.50 per pound.

◆

Magnus, Mabee & Reynard, Inc., New York, has registered the trade-mark "Delmareo" for perfume oils, flavors, aromatic chemicals, and concentrated essences.

◆

A lecture on the chemistry of modern perfumes was presented by Dr. V. G. Fourman, chief chemist of Compagnie Parento, Croton-on-Hudson, N. Y., before the college branch of the American Pharmaceutical Association at St. John's University, Brooklyn, last month. The lecture dealt with the chemistry of a number of raw materials including flower oils, animal fixatives and synthetics which are used in the perfume industry.

◆

H. L. Shaftoe, manager of the Cincinnati office of Givaudan-Delawanna, Inc., New York, and Dudley Lum, manager of the Chicago branch, spent the week of January 7 in New York, making their headquarters at the main office of the company.

◆

Theodore K. Shipkoff & Co., Ltd. of Sofia, Bulgaria, distillers of otto of rose, are now being represented in the United States by Charles L. Huisking & Co., New York, as distributing agents.

◆

William B. Branch has been appointed representative for Florasynth Laboratories, New York, in the southeastern states. He will make his headquarters at 1415 Candler building, Atlanta.

◆

A three-day general sales meeting of representatives of Magnus, Mabee & Reynard, Inc., was held in New York, January 3-5. Coincidentally the gathering marked the 40th anniversary of the establishment of the organization.

◆

Belmay, Inc., perfuming materials, formerly located at 276 Fifth Avenue, New York, has taken new quarters at 243 West 17th Street.

◆

WEICKER HEADS TRADE BOARD SECTION

H. G. Weicker, Dodge & Olcott Co., New York, was elected chairman of the drug, chemical and allied trades section of the New York Board of Trade at the annual meeting held Thursday noon, December 27, at the Drug & Chemical Club, New York. Other officers for the coming year are: Frank A. Blair of the Centaur Co., vice chairman, and S. Barksdale Penick of S. B. Penick & Co., treasurer. Members of the advisory council are: Samuel V. Fraser of Burroughs Wellcome & Co.; Francis J. McDonough of the New York Quinine & Chemical Works; Percy C. Magnus of Magnus, Mabee & Reynard, Inc.; Charles A. Prickitt, Upjohn Co., and S. I. Bankdale Penick of S. B. Penick & Co.

A meeting of the full membership of the trade board was held, January 9, at the Hotel Pennsylvania, to hear the report of Dr. Robert R. Doane on the proposed municipal power plant. The board has recently passed a resolution requesting the city to take no action on the proposed power plant until the public has had an opportunity to make its attitude known at a public hearing.

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ESTABLISHED 1914

CURRENT PRICE QUOTATIONS

(As of January 8, 1935)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	.08½	.10
Acid, Boric, bbls., 99½%	ton	95.00	100.00
Cresylic, 97½ dk., drums	gal.	—	.55
97-99%, pale, drums	gal.	—	.60
Oxalic, bbls	lb.	.11	.11¼
Adeps Lanae, hydrous, bbls	lb.	.14	.15
Anhydrous, bbls	lb.	.15	.16
Alcohol, Ethyl, U. S. P., bbls	gal.	2.45	2.69
Complete Denat., No. 5, drums., ex.	gal.	.34	.42
Alum. Potash lump	lb.	.03	.03¼
Ammonia Water, 260, drums, wks	lb.	.02½	.02¾
Ammonium Carbonate, tech., bbls	lb.	.08	.12½
Bleaching Powder, drums	100 lb.	1.75	2.35
Borax, pd., cryst., bbls., kegs	ton	50.00	55.00
Carbon Tetrachloride, car lots	lb.	—	.05¼
L. C. L.	lb.	.06	.08½
Caustic, see Soda Caustic, Potash Caustic			
China Clay, filler	ton	10.00	25.00
Cresol, U. S. P., drums	lb.	.11	.11½
Creosote Oil	gal.	.11½	.12½
Feldspar (200 to 325 mesh)	ton	14.00	15.00
Formaldehyde, bbls	lb.	.06	.07
Fullers Earth	ton	15.00	24.00
Glycerine, C. P., drums	lb.	.14	.14½
Dynamite, drums	lb.	.13¾	.14¼
Saponification, drums	lb.	.10	.10¼
Soaps, Lye, drums	lb.	.09	.09¼
Hexalin, drums	lb.	—	.30
Kieselguhr, bags	ton	—	35.00
Lanolin, see Adeps Lanae.			
Lime, live, bbls	per bbl.	1.70	2.20
Mercury Bichloride, kegs	lb.	.93	1.08
Naphthalene, ref. flakes, bbls	lb.	.05½	.06¼
Nitrobenzene (Myrbane) drums	lb.	.09½	.11
Paradichlorbenzene, bbls., kegs	lb.	.16	.25
Paraformaldehyde, kegs	lb.	.38	.39
Petrolatum, bbls. (as to color)	lb.	.01⅞	.06¾
Phenol, (Carbolic Acid), drums	lb.	.14¼	.16
Pine Oil, bbls	gal.	.59	.65
Potash, Caustic, drums	lb.	.06¼	.06½
Flake	lb.	.07	.07¼
Potassium Bichromate, casks	lb.	.08⅛	.08⅝
Pumice Stone, powd	100 lb.	2.50	4.00
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs	bbl.	5.20	5.70
Grade K to N	bbl.	5.75	5.85
Grade WG and X	bbl.	6.10	6.60
Wood	bbl.	4.30	6.05
Rotten Stone, pwd. bbls	lb.	.02½	.04½
Silica, Ref., floated	ton	18.00	22.00
Soap, Mottled	lb.	.04⅛	.04⅜
Olive Castile, bars	lb.	.13	.19
powder	lb.	.21	.25
Olive Oil Foot	lb.	.07	.07½
Powdered White, U. S. P.	lb.	.16	.20
Green, U. S. P.	lb.	.06½	.08
Tallow Chips	lb.	.06¾	.07¼
Whale Oil, bbls	lb.	.05	.06
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.23	1.50
Car lots, in bulk	100 lb.	—	1.05
Soda Caustic, cont., wks., sld	100 lb.	—	2.60
Flake	100 lb.	—	3.00
Liquid, tanks	100 lb.	—	2.25
Soda Sal., bbls.	100 lb.	1.10	1.30
Sodium Chloride (Salt)	ton	11.40	14.00
Sodium Fluoride, bbls	lb.	.07½	.09¼
Sodium Hydrosulphite, bbls	lb.	—	.22
Sodium Silicate, 40 deg., drum	100 lb.	—	.80
Drums, 60 deg. wks	100 lb.	—	1.65
In tanks, 15c. less per hundred, wks.			
Tar Acid Oils, 15-25%	gal.	.21	.25
Trisodium Phosphate, bags, bbls	lb.	.03	.0355
Zinc Oxide, lead free	lb.	.06	.06¼
Zinc Stearate, bbls	lb.	.18	.19

Oils — Fats — Greases

Castor, No. 1, bbls	lb.	.10¼	.11
No. 3, bbls	lb.	.09¾	.10½
Coconut			
Manila, tanks, N. Y.	lb.	—	.04¼
Tanks, Pacific coast	lb.	—	.04
Drums	lb.	—	.05¼
Cod, Newfoundland, bbls	gal.	.36	.38
Copra, bulk, coast	lb.	.0225	.0230
Corn, tanks, mills	lb.	.09¾	Nom.
Bbls., N. Y.	lb.	.10¾	Nom.
Cottonseed, crude, tanks, mill	lb.	—	.09½
PSY	lb.	—	Nom.
Degras, Amer., bbls	lb.	.04½	.05½
English, bbls.	lb.	.05¼	.05¾
German, bbls.	lb.	.05¾	.06
Neutral, bbls.	lb.	.09	.11
Greases, choice white, bbls., N. Y.	lb.	.05½	.05⅞
Yellow	lb.	.05¼	.05⅜
House	lb.	.05¼	.05⅜
Lard, City	lb.	—	.13
Compound tierces	lb.	.13	.13½
Lard Oil,			
Extra, bbls.	lb.	—	.08½
Extra, No. 1, bbls.	lb.	—	.08¼
No. 2, bbls.	lb.	—	.07½
Linseed, raw, bbls., spot	lb.	.0870	.0910
Tanks, raw	lb.	—	.0810
Boiled, 5 bbls. lots	lb.	—	.0990
Menhaden, Crude, tanks, Balt	gal.	.25	Nom.
Oleo Oil, No. 1, bbls., N. Y.	lb.	—	.10¼
No. 2 bbls., N. Y.	lb.	—	.10
Olive, denatured, bbls., N. Y.	gal.	.85	.87
Foots, bbls., N. Y.	lb.	.07⅛	.07¼
Palm	lb.	.03½	.03¾
Palm Kernel, casks, denatured	lb.	.03½	Nom.
Peanut, domestic tanks	lb.	.09½	Nom.
Red Oil, distilled, bbls.	lb.	.07⅜	.08⅜
Saponified, bbls.	lb.	.07⅜	.08⅜
Tanks	lb.	—	.06½
Soya Bean, domestic tanks, N. Y.	lb.	—	.08¼
Stearic Acid			
Double pressed	lb.	.10	.11
Triple pressed, bgs.	lb.	12¾	.13¾
Stearine, oleo, bbls.	lb.	.09¼	.09⅜
Tallow, special, f.o.b. plant	lb.	—	.05½
City, ex. loose, f.o.b. plant	lb.	—	.05⅝
Tallow, oils, acidless, tanks, N. Y.	lb.	—	.07½
Bbls., c/l, N. Y.	lb.	—	.08
Whale, crude	lb.	.03½	.04
refined	lb.	.06¾	.07

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Anise, cans, U. S. P.	lb.	.40	.45
Apricot, Kernel, cans	lb.	.22	.25
Bay tins		1.25	1.50
Bergamot, coppers	lb.	1.50	1.70
Artificial	lb.	1.00	1.30
Birch Tar, rect. tins	lb.	.70	.78
Crude, tins	lb.	.12	.16
Bois de Rose, Brazilian	lb.	1.25	1.40
Cayenne	lb.	2.80	2.90
Cade, cans	lb.	.26	.30
Cajuput, native, tins	lb.	.50	.60
Calamus, tins	lb.	3.25	3.50
Camphor, Sassy, drums	lb.	—	.19
White, drums	lb.	—	.20
Cananga, native, tins	lb.	2.50	2.55
Rectified, tins	lb.	2.95	3.00
Caraway Seed	lb.	1.90	2.20
Cassia, Redistilled, U. S. P.	lb.	1.25	1.30
drums	lb.	—	1.20
Cedar Leaf, tins	lb.	.60	.70
Cedar Wood, light, drums	lb.	.22	.25
Citronella, Java, drums	lb.	.32	.37
Citronella, Ceylon, drums	lb.	.24	.30
Cloves, U. S. P., tins	lb.	.90	.92
Eucalyptus, Austl., U. S. P., cans	lb.	.27	.30
Fennel, U. S. P., tins	lb.	1.00	1.25
Geranium, African, cans	lb.	5.25	7.25
Bourbon, tins	lb.	4.85	6.50
Hemlock, tins	lb.	.70	.75
Lavender, U. S. P., tins	lb.	3.00	7.00
Spike, Spanish, cans	lb.	1.20	1.60
Lemon, Ital., U. S. P.	lb.	1.00	1.20
Lemongrass, native, cans	lb.	.85	1.10
Linaloe, Mex., cases	lb.	1.35	1.50
Nutmeg, U. S. P., tins	lb.	1.20	1.35
Orange, Sweet W. Ind., tins	lb.	1.60	1.85
Italian cop	lb.	1.50	2.25
Distilled	lb.	.65	.70
Origanum, cans, tech.	lb.	.60	.70
Patchouli	lb.	2.50	3.50
Pennyroyal, dom.	lb.	1.85	1.90
Imported	lb.	1.35	1.70
Peppermint, nat., cases		3.00	3.40
Redis., U. S. P., cases	lb.	3.20	3.70
Petit, Grain, S. A. tins	lb.	1.05	1.10
Pine Needle, Siberian	lb.	.85	.90
Rose, Natural	oz.	5.50	18.00
Artificial	oz.	2.00	3.00
Rosemary, U. S. P., tins	lb.	.32	.38
Tech., lb. tins	lb.	.28	.35
Sandalwood, E. Ind., U. S. P.	lb.	5.00	5.50
Sassafras, U. S. P.	lb.	.75	1.00
Artificial	lb.	.45	.50
Spearmint, U. S. P.	lb.	1.75	2.10
Thyme, red, U. S. P	lb.	58	1.02
White, U. S. P.	lb.	.65	1.10
Vetivert, Bourbon	lb.	7.50	8.50
Java	lb.	16.00	20.00
Ylang Ylang, Bourbon	lb.	4.60	7.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.50	$2.25
Amyl Cinnamic Aldehyde	lb.	3.50	4.25
Anethol	lb.	1.00	1.10
Benzaldehyde, tech	lb.	.60	.65
U. S. P.	lb.	1.10	1.30
Benzyl, Acetate	lb.	.60	1.00
Alcohol	lb.	.75	1.15
Citral	lb.	1.90	2.20
Citronellal	lb.	2.25	2.50
Citronellol	lb.	2.55	3.00
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	3.10	3.30
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	1.05	1.25
Eucalyptol, U. S. P.	lb.	.62	.65
Eugenol, U. S. P.	lb.	2.00	2.50
Geraniol, Domestic	lb.	1.25	2.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	3.00	3.50
Heliotropin	lb.	2.00	2.10
Hydroxycitronellal	lb.	3.50	9.00
Indol, C. P.	oz.	2.00	2.50
Ionone	lb.	3.60	6.50
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	1.65	2.25
Linalyl Acetate	lb.	3.00	4.25
Menthol	lb.	3.50	3.60
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.15	3.20
Paracresol	lb.	4.50	6.00
Salicylate, U. S. P.	lb.	.40	.45
Musk Ambrette	lb.	5.75	6.00
Ketone	lb.	6.25	6.50
Moskene	lb.	5.00	6.00
Xylene	lb.	2.00	2.50
Phenylacetaldehyde	lb.	4.00	6.50
Phenylacetic Acid, 1 lb., bot.	lb.	3.00	4.00
Phenylethyl Alcohol, 1 lb. bot.	lb.	4.25	4.50
Rhodinol	lb.	5.75	8.00
Safrol	lb.	.54	.58
Terpineol, C. P., 1,000 lb. drs.	lb.	.33	.35
Cans	lb.	.36	.37
Terpinyl Acetate, 25 lb. cans	lb.	.80	.90
Thymol, U. S. P.	lb.	1.40	1.50
Vanillin, U. S. P.	lb.	4.50	5.75
Yara Yara	lb.	1.30	2.00

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15 to 1	gal.	5.75	6.00
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30 to 1	gal.	11.55	11.60

Gums

Arabic, Amb. Sts.	lb.	.09	.09½
White, powdered	lb.	.13	.13½
Karaya, powdered No. 1	lb.	.08	.09
Tragacanth, Aleppo, No. 1.	lb.	1.15	1.20
Sorts	lb.	.11	.12

Waxes

Bees, white	lb.	—	.33½
African, bgs.	lb.	.21	.22
Refined, yel.	lb.	.25	.26
Candelilla, bgs.	lb.	.13	.14
Carnauba, No. 1.	lb.	.32	.33
No. 2, yel.	lb.	.31	.32
No. 3, chalky	lb.	.19	.21
Ceresin yellow	lb.	.36	.38
Paraffin, ref. 125-130	lb.	.03¾	.04¼

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OUTLOOK FOR 1935

(*From Page* 18)

year and a half, it seems probable that American production of animal fats will show a further decline in 1935. There is already a very apparent shortage of cottonseed oil and soyabean oil and a better than average production in 1935 will no more than counteract this shortage. In coconut oil the situation is a little different. Coconut oil production is off from twenty to thirty per cent this year as a result of the typhoon which devastated the Philippine copra crop, but the expectation is for a normal crop next year. The size of the palm oil crop is also conditioned on a perennial rather than an annual basis, so a normal crop is looked for in this oil next year. There is very little likelihood in either case for a downward tendency in prices, however, as the strong position of other oils naturally tends to keep coconut oil and palm oil up in price.

The chance for a big change in the oil and fat picture seems to lie in congressional action on the excise tax. At present the outlook is for no change. Whether entirely on account of the excise tax or not, the government has succeeded in its purpose of raising the prices of domestic oils and fats, and is not liable to risk any recession by a change in its policy. The best chance for relief from the tax for the soap industry seems to lie in the possibility of remission of at least a portion of the tax, as applied to coconut oil from the Philippines. When the excise tax was voted back in 1934, it was over the strenuous objections of many legislators, and the chief executive as well, who considered the measure to be rather shabby treatment of the Filipinos and a violation of administration promises. When the subject is again brought before the present Congress, there is no doubt that there will be substantial opinion in favor of granting some relief from the tax to the Philippines.

Incidentally the relief, if it materializes, will also be welcomed by the soap industry. It is worth noting in this connection, however, that some members of the industry will be just as well satisfied if the excise tax is allowed to stand as it applies at present. One soap maker has recently expressed this rather unusual opinion, pointing out that a change would be liable to upset the oil and fat market once more, just as it is getting stabilized on the new basis. He points out that once soap makers get their selling prices adjusted to the new level of oil and fat prices, they will be better off than before, as their percentage of profit will then be based on soap at a considerably higher price per pound. In the meanwhile, we repeat once more, some soap makers who have not yet adjusted their selling prices to the current level of raw materials, are faced with doing this in the very near future or waking up late in 1935 to the fact that it is going to be a lean year from the angle of profits.

—— ♦ ——

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PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries.*

Dispersing Agents for Lime Soaps

HARD water detergents are being given more and more attention. A study of this subject has been presented recently by Ralph Hart in the *American Dyestuff Reporter.* It has been found that sodium pyrophosphate as well as sodium metaphosphate, has the property of dissolving lime soaps. The pyrophosphate is more alkaline than the metaphosphate, but in general has similar properties. These, as well as other hard water resistant compounds, have been studied by means of a "lime-proof" test.

This lime-proof test consists of titrating a solution of the material to be examined with calcium chloride solution until ordinary newspaper print, fastened to the sides of the beaker by a rubber band, could no longer be read when viewed through the liquid. Most of the tests on soap were made with 20 cc. of a 1 per cent solution of commercial olive oil soap in a 100 cc. beaker. This was titrated with an 0.18 per cent solution of calcium chloride, and sufficient water added to make the total volume at the end point 40 to 41 cc. The soap solution was used in studying the effect of depth, dilution and temperature.

The lime-proof test was then applied to a number of products used more or less extensively in the wet-processing of textiles. As in the test on soap, 20 cc. of a 1.0 per cent solution of the sample was titrated with the standard calcium chloride solution and the volume at the limit of transparency was confined to 40 to 41 cc. The results are shown in Table I.

With the two samples of castor oil, the weight of sample was based on anhydrous fatty matter. The pine oil was made soluble with soap and alcohol. Prestabit V, Igepon T, and Gardinol WA were found to be very soluble in hard water. Calgon and sodium pyrophosphate, though less soluble, are still sufficiently soluble to resist the hardest water used in practice. The solubility of the calcium compounds of the other materials tested were far inferior. The resistance of Nekal BX and sulfonated castor oil to hard water was about the same and the limit of transparency for both compounds was between 285 and 465 hardness, depending on the temperature. Neutralized sulfonated castor oil was as good as the non-neutralized oil in hot water but much poorer in cold water. Soluble pine oil, olive oil soap, and coconut oil soap were lime-proof to about the same extent. Castor oil soap, on the other hand was considerably poorer at 25° C., though equally good at 100° C.

Table I. Effect of Calcium Chloride on Processing Agents

	Limit of Transparency at 100°C.		25°C.	
Sample	$CaCl_2$ *Soln. in cc.*	*Hardness as* $CaCO_3$ *p.p.m.*	$CaCl_2$ *Soln. in cc.*	*Hardness as* $CaCO_3$ *p.p.m.*
Prestabit V	Very soluble		Very soluble	
Igepon T	Very soluble		Very soluble	
Gardinol WA	Soluble		Soluble	
Calgon	38	1,500	45	1,800
Sodium pyrophosphate	14	560	26	1,040
Nekal BX	10.3	410	9.0	360
Sulfonated castor oil	7.1	285	11.6	465
Sulfonated castor oil, neutralized	6.8	270	4.8	190
Soluble pine oil	3.9	155	7.1	285
Olive oil soap	3.2	130	6.8	270
Coconut oil soap	3.6	145	6.9	275
Castor oil soap	3.5	140	2.0	80

The same processing agents were next tested for the property of dispersing or dissolving lime soaps. The procedure included a blank with soap alone and was as follows: A sample consisting of 0.2 gram of olive oil soap was treated with 0.1 gram of the reagent and enough water added so that upon titrating with the calcium chloride solution to the limit of transparency the total volume was confined to 40 to 41 cc. A blank titration was then made with the soap alone and the difference between the total titration and the blank was considered the amount of lime soaps kept in clear solution or dispersion. Results are given in Table II.

Nekal BX, Prestabit V, soluble pine oil, and Gardinol WA were of little value in preventing the formation of calcium soap. In some cases the solutions actually turned cloudy sooner than the blanks, as indicated in the

Table II. The Limit of Calcium Soap Solubility with Various Commercial Inhibitors

Inhibitors	$CaCl_2$ Solution in cc. at 100°C.	80°C.	60°C.	40°C.	25°C.
Nekal BX	—0.2	0.0	—0.3	—0.4	0.0
Prestabit V	1.8	2.3	1.2	0.5	—1.2
Soluble pine oil	0.7	0.8	1.4	1.7	0.4
Gardinol WA	0.6	1.0	1.9	3.1	2.7
Sulfonated castor oil.	4.5	4.6	1.6	1.8	1.6
Igepon T	3.2	5.1	6.7	6.7	6.4
Calgon	11.1	10.9	10.9	8.2	1.9

table by the negative values. Sulfonated castor oil was as good as Igepon between 80 and 100°C., but below 80° it proved to be of little value as a dispersing agent for calcium soap.

Calgon is reported to consist of 90 per cent of sodium hexametaphosphate and 10 per cent of sodium pyrophosphate. The efficiency of Calgon seems to drop off below 60° C. At a temperature as low as 20°, it showed practically no tolerance for lime. Magnesium soaps were found to be made more easily soluble than lime soaps. With sodium pyrophosphate alone the tolerance for lime soaps decreases rapidly below 70° C. Its tolerance for calcium chloride is about half as great as that of Calgon. On the other hand, it was found to be considerably more effective than the metaphosphate for dissolving magnesium soaps.

Igepon T is the most effective of the organic lime-soap inhibitors tested. It is a better reagent in cold water than in hot, which is just the reverse of the phosphates. This would indicate that it exerts a dispersing rather than a solubility effect on lime soaps.

As expected, sulfonated castor oil proved considerably more lime-resistant than soap. Lime-resistance decreases with increase in temperature. Neutralized sulfonated castor oil shows an optimum value at about 60° C. Between 50 and 100° it is somewhat better than the acid oil, but below 50° it is considerably poorer. The acid sulfonated oil withstands moderately hard water without any trouble.

It is to be emphasized that these results are in terms of an arbitrary test. Data obtained by this test may or may not run parallel with sudsing or detergency results obtained in actual practice.

CALCIUM SOAP ON TEXTILE FIBERS

An investigation of the determination of calcium soap on textile fibers, particularly with reference to the solubility of calcium soap in various solvents, has been carried out at Mellon Institute and reported by Bernard H. Gilmore. A critical survey of the literature of the subject coupled with the results of the experimental work show that the common solvents for calcium soaps are not selective in differentiating between alkali soaps and alkaline-earth soaps. The new method is based on the complete extraction of the total soap by an appropriate solvent, followed by the actual determination of the calcium content of the soap extract. Fatty acids are determined by the method of King, which was published in the *Journal of the Textile Institute* **13**, T127 (1922). Calcium is determined in aqueous solution by precipitation as oxalate, followed by permanganate titration.

Benzene and carbon tetrachloride are equally efficacious for the extraction of calcium oleate but these solvents are not efficient for the extraction of calcium stearate. Marcusson's mixture of 9 parts of benzene and 1 part of absolute alcohol is the most effective solvent for the extraction of the calcium soaps of the saturated fatty acids and therefore most suitable for general purposes, since most soaps contain mixtures of saturated and unsaturated fatty acids.

Unless unusual precautions are taken to insure anhydrous conditions when alcohol is used as the extracting solvent, erroneous results will be obtained, owing to the interaction between any water in the alcohol, and soap. The results point conclusively to the unreliability of the classical triple-extraction method, which was devised on the assumption that calcium soaps are not extractable by alcohol.

Calcium soap is separated best by continuous extraction with a benzene-alcohol mixture (9:1), with an extraction period of 8 hours or longer. A few mg. of calcium soap are always left on the material being extracted. This is not because of the inefficiency of the solvent but because either the residual fatty acids are in a different state of combination or are different from the fatty acids extracted. The residual fatty acid does not seem to be stearic or oleic acid. It may possibly consist of oxidized fatty acids derived from oleic, linoleic or linilenic acid.

The relative solubility of calcium stearate in different solvents was shown by placing 1 gram samples of calcium stearate in thimbles of a Sohxlet extraction apparatus and refluxing 15 times. The weight of extract so obtained was as follows:

Solvent	*Mg. of Extract*
Benzene	47.0
Absolute alcohol	88.2
Benzene-alcohol (9:1)	225.0
Isopropyl alcohol	110.0
Isopropyl ether	56.6

The use of the benzene-alcohol solvent has one disadvantage in that it is not easy to recover. If recovered by simple distillation, the composition of the distillate will not be accurately known. Benzene and absolute alcohol form a constant boiling mixture of minimum boiling point. It is impossible to separate the components of such a mixture. All that can be done is to separate the component in excess, benzene, from the mixture of constant boiling point. The boiling point of the constant boiling mixture is 68.24° C., compared to 78.3° C. for pure alcohol and 80.2° C. for pure benzene. The composition of the mixture is 32.37 per cent alcohol and 67.63 per cent by weight of benzene.

Patterson Foundry & Machine Co., East Liverpool, Ohio, has prepared a four-page folder describing and illustrating its portable power mixers and heavier stationary mixers.

OXYGEN IN SOAP POWDERS

Soap and soap powders frequently contain sodium perborate as an oxidizing agent. The sodium perborate should contain about 10 per cent of available oxygen. Various methods have been proposed from time to time for determining the oxygen, as a check on the stability of the perborate. The most reliable is probably that in which the soap or soap powder is dissolved in water in a graduated flask, acidified with dilute sulfuric acid, and the flask filled to the mark. An aliquot part of this solution is filtered off through dry paper, a considerable excess of potassium iodide added, and the liberated iodine titrated with 0.1 N sodium thiosulfate solution, using starch as indicator. A process has also been recommended in which 1 gram of detergent is dissolved in 150 cc. of water and 100 cc. of a ferrous sulfate solution acidified with sulfuric acid added. The available oxygen oxidizes ferrous to ferric sulfate, and this is then determined by titration with titanium sulfate. An alternative would appear to be the addition of a measured amount of ferrous sulfate solution of known strength, and after reaction, titration of the excess of ferrous iron. *Perfumery and Essential Oil Record* **25**, 364 (1934).

PERFUME STABILITY AND VISCOSITY

The suggestion has been made that a definite relationship exists between the stability of a perfume and the viscosity of the ethereal oil. According to this theory, a fixative tends to increase the viscosity of the oil. Possibly the more viscous material forms a film over the more volatile material. Data showing the relation of viscosity to volatility have been obtained. The relative viscosity is expressed as the time in seconds required to deliver 1 cc. of oil from a pipette.

Ethereal Oil	*Relative Viscosity*	*% Volatilization at 60° C. in 24 hrs.*
Cypress	25	91.22
Mandarin orange	27	89.11
Eucalyptus	32	85.76
Bitter orange	33	84.57
Lemon	36	83.33
Juniper	37	81.97
Bitter almond	37	83.99
Lemongrass	44	76.14
Bergamot	47	73.11
Caroway	52	72.76
Anise	58	71.79
Star anise	59	70.12
Rosemary	65	74.65
Thyme	69	71.11
Peppermint	72	71.01
Lavender	87	70.62
Ylang-ylang	93	67.93
Cinnamon (Ceylon)	93	64.43
Nutmeg-sage	94	62.15
Geranium	103	41.46
Geranium (Africa)	146	26.99
Patchouli	472	18.3
Vetivert	483	17.91
Sandalwood	507	16.24
Copal balsam	858	22.33
Styrax	1226	8.13

Deutsche Parfumerie-Ztg. **20**, 323-4 (1934).

HOW METAPHOSPHATE SOFTENS WATER

Sodium metaphosphate is now being manufactured in England. Patents have been granted there for its use in boiler feed-water conditioning, while other patents covering its use in various processes have been applied for. The particular advantage of this salt is that it softens water without forming a precipitate, in contrast to some other softening agents. It is believed that sodium hexametaphosphate ionizes to two sodium ions, and to the complex anion, $Na_4P_6O_{18}$. This secondary ionization, although very slight, allows calcium to be substituted for sodium in the complex ion, giving $Na_2CaP_6O_{18}$, a soluble complex double salt. Therefore water treated with sodium metaphosphate will render calcium inactive, and will remain soft, provided sufficient metaphosphate is present. This salt has a wide application in the textile and laundry industries, particularly at those stages where even a few degrees of hardness are to be avoided. *Chemical Trade J.* **95**, 358 (1934).

DETERGENCY IN HARD WATER

Washing experiments in hard water in which the efficiency of various materials added to soap was tested, gave the following results:

Detergent	*Fatty acid conc., grams per liter*	*Material added, in %*	*Brightness of the washed fabric, in %*
Curd soap (84.4% fatty acid)	1.25	——	13.0
Curd soap (84.4% fatty acid)	0.6	——	8.2
Curd soap (84.4% fatty acid)	1.25	0.5 soda	10.2
Curd soap (84.4% fatty acid)	1.25	1.0 soda	13.7
Curd soap (84.4% fatty acid)	1.25	10 waterglass	12.7
Curd soap (84.4% fatty acid)	1.25	0.1 caustic soda	13.7
Turkey red oil	1.25	——	7.0
Soap+10% turkey red oil	1.25	——	12.8
Soap+10% turkey red oil	0.6	——	12.7
Soap+10% turkey red oil	1.25	0.5 soda	11.6
Soap+10% turkey red oil	1.25	1.0 soda	17.1
Soap+10% turkey red oil	0.6	1.0 soda	15.9
Soap+10% turkey red oil	1.25	10 waterglass	17.4
Soap+10% turkey red oil	1.25	0.1 caustic soda	15.5
Soap+10% turkey red oil	1.25	0.5 trisodium phosphate	10.1

The results show that soap and turkey red oil alone are inefficient, since the alkaline earth soaps remain on the fabric, giving a gray appearance. Addition of 10 per cent of turkey red oil and soda may result in a saving of as much as 50 per cent of the soap. An addition of more than 20 per cent of turkey red oil is excessive. Soda can be replaced by waterglass or trisodium phosphate, in appropriate amounts. A. Lomanowitsch and W. Murowzowa. *Seifen. Öl- und Fettind.* **20**, 335-6 (1934).

The black residues from the refining of castor oil called "castor-oil-black" can be used for decolorizing fatty acids instead of using the more expensive activated carbon. These residues consist of 48-66 per cent of oil and carbon. M. Zaliopo. *Masloboino-Zhirovoe Delo*, 1933, No. 8, 25-6.

Sulfuric esters of oils and fats of the linseed oil type are prepared by giving the oils or fats a prior treatment with a weak sulfonating agent such as potassium acid sulfate and then treating with sulfuric acid. Chem. Fabrik Stockhausen & Cie. German Patent No. 599,837.

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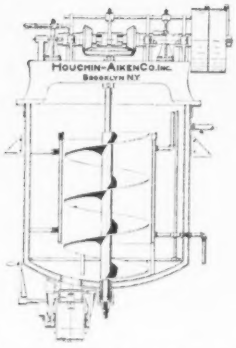
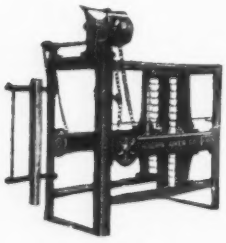


Perfection Crutcher Cross
Section View Plunger
Type Valve

Horizontal Crutcher

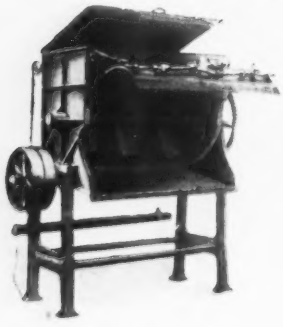
Empire State
Press

Standard
Soap Frame

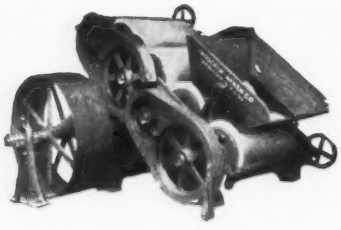


Automatic Power
Slabber

Automatic Power Cutting
Table



Ideal Amalgamator



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IMPROVED SHAPE IN SOAP FLAKES

One of the most valuable properties of soap flakes is their rapid solubility in water, and some of the flakes now being produced show a very marked improvement in this respect, dissolving rapidly even in cold water. Quick solubility may be brought about in two ways; (1) production of the soap from material which gives a readily soluble soap such as coconut or palm kernel oil, and (2) reducing the size and thickness of the flakes. The dimensions are limited by the necessity for having a fairly strong flake which will not break or powder too easily. Sometimes the volume contracts and the carton of flakes when opened appears to have been incompletely filled. A Lever Brothers' patent obviates this difficulty and supplies a method for producing smaller flakes which shall at the same time have the requisite strength.

The flaked soap as it leaves the roll of the mill is hot and in the form of curved or arched flakes. In this method the curvature of the flakes is retained by rapidly transferring them to a cooling tower, where they fall through a current of cold air, or rather air at 85 to 90° F. Such curled flakes may be made with a length of 0.25 inch and a thickness of 0.002 inch, or about half the usual dimensions. The new flakes retain their shape and bulk volume in the carton, and when thrown into water do not lump together. *Perfumery and Essential Oil Record* **25**, 363 (1934).

FAT HYDROLYSIS BY ELECTRICITY

The hydrolysis of fats into glycerine and fatty acids may be greatly accelerated by passing an alternating current through the heated mass, according to U. S. Patent 1,976,376, issued to Erwin F. Spellmeyer. Any of the usual processes may be used, but the Twitchell Method is recommended due to its simplicity. Hydrolysis by this process ordinarily takes from 32 to 36 hours. By the use of alternating current, the time required for the reaction may be reduced to 6 or 8 hours. A further advantage is that the quantity of hydrolyzing catalyst can be reduced and in some cases entirely eliminated. An example follows. The mixtures were kept at the boiling point of water during the runs by the use of an open steam coil immersed in the mixture.

Ingredients	*% by weight*
Sulfuric acid, 60° Be.	3
Twitchell reagent	1
Water	38
Olive Oil	58

Current: 0.25 amperes. 3 to 5 volts.

Time of run	*Conversion*
1 hour	38% fatty acids
2 hours	60% fatty acids
3 hours	77% fatty acids
4 hours	86% fatty acids
6 hours	91% fatty acids
9 hours	complete

The effectiveness of the system is ascribed to a large increase in the number of ions present in the mixture as the result of the passage of current in alternate directions.

SAND-SOAP PREPARATIONS

Sand and pumice soft soaps and cleaning preparations take the form of a palm oil and coconut oil soaps, which are liquored down in the same pan with carbonate of potash, carbonate of soda crystals, silicate of soda 100° Twaddle, and water. A formula is as follows:

Mix:	
Coconut oil	4 lb.
Red palm oil	69 lb.
Caustic soda, 60°Tw.	37 lb.
Then add:	
Carbonate of potash	5 lb.
Soda crystals	15 lb.
Silicate of soda, 100°Tw.	21 lb.
Cresylic acid	3 lb.
Verpine	1½ lb.
Orange II (color)	¼ oz.

Melt the two oils, pass in steam, and then pour in caustic soda solution gently, adding a little water from time to time to keep the soap smooth. Saponification will proceed fairly easily, as the palm oil soon reacts. When all the caustic soda has been added, pour in the remainder of the water in such a way that the mass never ceases to simmer. The operation should take about four hours. Towards the end add the other ingredients, which will dissolve easily, as the finished product is very similar to a liquid soap. Let the soap liquid cool to about 90° F., and to 10 pounds of fine sand add the same amount of the soap. While the soap is being added, the mass must be stirred rapidly. When it resembles a thick sludge it will be ready to pour into tins. The only precaution to take is that the mass must not be poured in too warm, as the sand will settle in the tins. This part of the operation requires a little experience and must always be done very carefully. No difficulty should be encountered if all directions are carried out. The whole mass of soap and additions should total 784 pounds, with the addition of water.

A hand-cleansing soft soap can be obtained by the use of a carbolic soft soap, preferably one made from vegetable oils, using the same proportions of soap and sand as in the previous example. It would be better in this case to use in place of the sand, pumice powder of 120 mesh. Sand is coarse and cheap. Better scouring agents might be used in its place, such as silver sand, or pumice powder of 60, 90, or 120 mesh, according to the nature of the finished article. *Manufacturing Chemist* **5**, 338 (1934).

Calcined soda ash can be used to saponify fatty acids in soap manufacture. If the fatty acids are not 100 per cent free fatty acid, a correspondingly smaller amount of soda is used, and the balance of the alkali is added as caustic soda. For example, if the fatty acid mixture contained 80 per cent of free fatty acids, then soda could be used for 80 per cent of the calculated amount of alkali for saponification, and caustic soda for the remaining 20 per cent. Blowing air across the mass aids in removing the carbon dioxide set free by the reaction. R. Krings, *Seifensieder-Ztg.* **61**, 873-4 (1934).

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ON PRODUCTS AND PROCESSES

Soap is mixed at any stage in its manufacture with the products obtained by degrading silk or fibroin otherwise than with aqueous alkali, for example with liquid ammonia or liquid sulfur dioxide. Paul Kueller and Karl Braun. German Patent No. 600,824.

◆

Borates of alcohols, such as borneol, or of phenols are added to ordinary soap. When the soap is mixed with warm water, free alcohol or phenol and alkali borate are produced. Tetsuji Ono. Japanese Patent No. 102,004.

◆

Oils containing more than 0.22 to 0.25 per cent of moisture show turbidity. This fact can be used for a rough determination of the amount of water in an oil by adding to a clear oil with shaking, known quantities of water until the appearance of turbidity. Similarly, if an oil is turbid, water is determined by adding, with shaking, known amounts of a moisture-free standard oil until the disappearance of turbidity. N. Morozov. *Masloboino-Zhirovoe Delo*, 1933, No. 6, 31-2.

◆

Soap used alone is wasted, both in neutralizing acidity in the soil (soiled fabrics) and in counteracting any hardness in the water. For the average type of soil and with water of 15° of hardness (German units), 46 per cent of the soap is used for neutralization, 26 per cent for softening the water, and only 28 per cent is left to carry out the cleansing process. Alkaline builders perform the same functions when present in soap in cake form as when present in soap powders: they help to maintain alkalinity, increase emulsifying power, and in some cases, act as water softeners. When kaolin is introduced into soap, it should first be treated with alkali, as it tends to give an acid reaction. Robert Heublum. *Seifensieder-Ztg.* **61,** 895-6, 913-9 (1934).

◆

The laws of equilibrium in the hydrogenation of vegetable oils apply only to the hypothetical case that all of the fat molecules are subject to a catalytic influence of uniform intensity. This condition is never met practically due to the limited sphere of influence of each catalyst particle. This explains why previous conclusions as to the effect of temperature and pressure on the course of hydrogenation are of qualitative rather than quantitative nature. Frans Bloemen. *Fettchem. Umschau* **41,** 151-4 (1934).

◆

The sulfonated oil, Intrasol, gives on analysis 17.1 per cent Na_2O, 1.96 per cent inorganic SO_3, 17.24 per cent organic SO_3 of which 12.69 per cent is sulfonic acid, 26.79 per cent total fatty matter and 14.3 per cent neutral fatty matter on a dry basis. The acid value is 4.99 and the saponification number 74.8. The water content is 51.11 per cent. In general the oil is excellent in its stability toward sulfuric acid, calcium chloride, magnesium sulfate, and sodium chloride. K. Nishizawa and S. Shimmen. *J. Soc. Chem. Ind., Japan*, **37,** Suppl. binding 144-5 (1934).

◆

Glycerol can be bleached satisfactorily by the combined treatment with ferrous sulfate and activated carbon. By using a 2 per cent solution of ferrous sulfate, the consumption of carbon can be considerably reduced. Vuigovskii and Yurkov. *Masloboino-Zhirovoe Delo*, 1933, No. 7, 19-20.

◆

Fatty esters containing unesterified hydroxy groups are prepared by causing the triglyceride in a fat or oil to react with a polyhydric alcohol in the presence of a catalyst comprising a soap of a metal of valence not greater than two. The soap may be formed *in situ* by partial saponification of the fat with an alkaline compound such as trisodium phosphate, sodium carbonate, sodium bicarbonate, or sodium hydroxide. Examples are given in which coconut oil, cottonseed oil or a completely hydrogenated castor oil are made to react with glycerol in the presence of a sodium soap, also completely hydrogenated cottonseed oil is heated with a solution of sodium hydroxide and glycerol. Procter & Gamble Co. British Patent No. 412,766.

◆

A washing, wetting, and dispersing agent is prepared by the action of hydrochloric acid on esters of aliphatic or alicyclic soap-forming carboxylic acids at a temperature between 150 and 250° C. in the presence of catalysts. The product is treated with basic soap-forming reagents, and the final product is given an addition of other soap, perfume, etc., or has its hydrocarbon content reduced by distillation, extraction, etc. In an example, sperm oil is heated to 180° C. with zinc chloride and dry hydrogen chloride gas. The reaction product is washed with warm salt solution and distilled under reduced pressure. The distillate, consisting of a mixture of higher saturated fatty acids and high molecular alkyl chlorides, is saponified with potassium or sodium hydroxide to give a soap. Deutsche Hydrierwerke A.-G. German Patent No. 601,547.

◆

The export of citronella oil from Java increased from an approximate monthly average of 76 tons in 1932, to 116 tons in 1933 and 140 tons in 1934.

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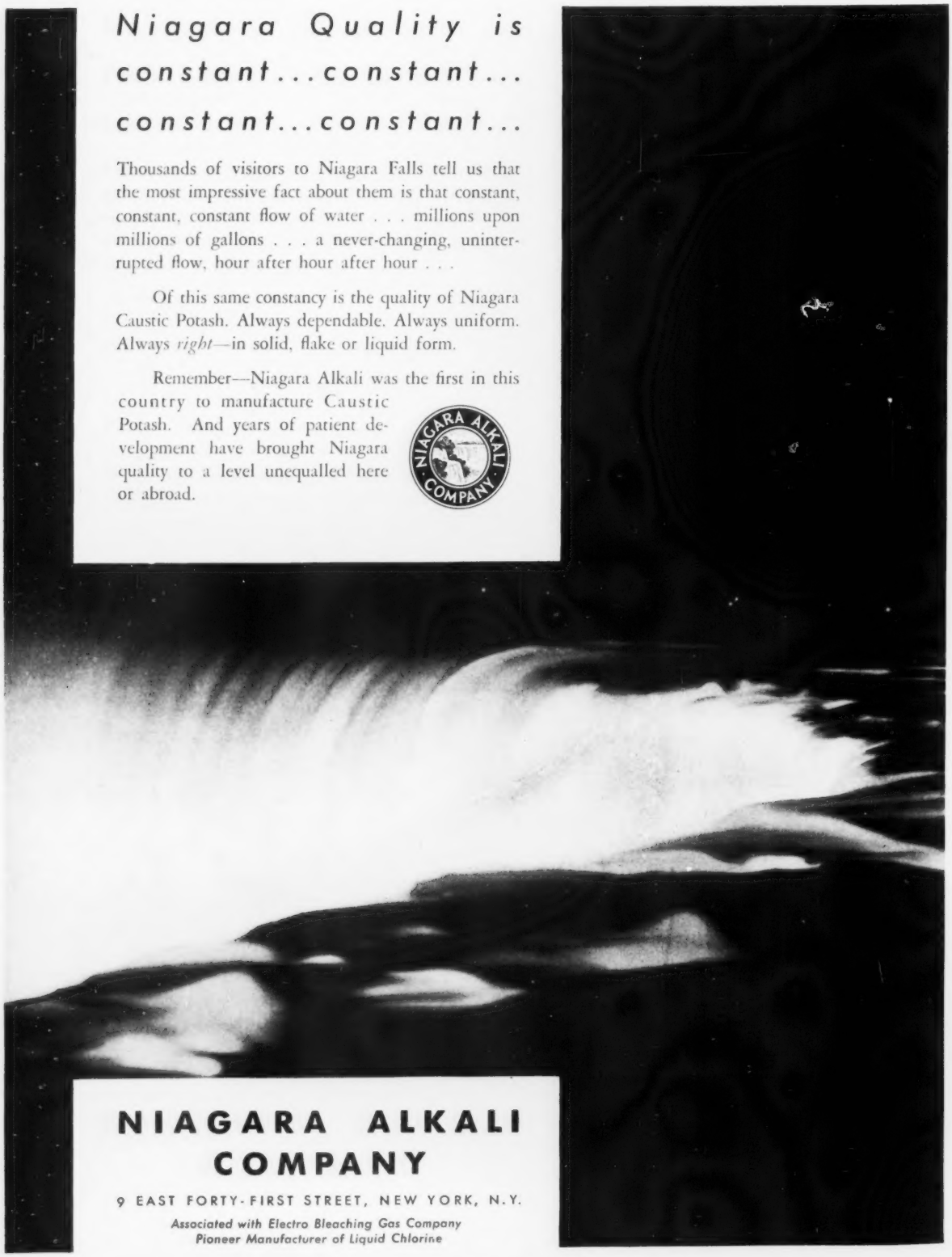

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DETERMINING BOUND ACETIC IN FATS

Methods for determining acetyl number have been compared as to their ability to determine bound acetic acid accurately. The acetylated substances tested were diacetate of dihydroxystearic acid, acetate of cholesterol and octadecyl acetate. Three methods were used to determine the acetyl contents, the Benedict-Ulzer, the filtration, and the Freudenberg method. In the filtration method the material is saponified with a measured excess of alcoholic alkali, the solution acidified with an equivalent amount of acid, the fatty acids filtered off and the free acid in the filtrate, corresponding to the bound acetic acid in the sample, titrated. In the Freudenberg method the bound acetic acid in the substance being tested is first converted into ethyl acetate by refluxing with ethyl alcohol and *p*-toluene sulfonic acid. The ethyl acetate is distilled off and determined by a saponification process. The Freudenberg method was found to give excellent results with all three substances, while the other two methods were less satisfactory in certain cases. The Freudenberg method appears capable of ready application to fatty materials, except those such as palm oil which contain fatty acids lower than caprylic acid. Because of the volatility of the ethyl esters of these lower acids, the Freudenberg method yields high results and the possibilities of correcting for such errors do not appear promising. K. Raufel, H. Thaler and M. de Mingo. *Fettchem. Umschau* **41**, 156-8 (1934).

—— ♦ ——

The presence of carbon monoxide in high concentrations in the hydrogen used for the hydrogenation of fats, retards the hydrogenation process and practically arrests it at the stage of formation of oleic acid. What happens is that the carbon monoxide is decomposed by the nickel catalyst into carbon dioxide and free carbon, and the latter is deposited on the nickel. Hydrogenation with water gas is inefficient for this reason. S. Danilox and R. Sviridovskaya. *Masloboino-Zhirovoe Delo* 1933, No. 6, 5-11.

—— ♦ ——

The sulfurated oil residues obtained in the preparation of sulfonated olive oil, which have high acid values, may be methylated to give illuminating oils having a lower freezing point than that of the corresponding ethylated product. The lower cost of synthetic methyl alcohol compared with that of ethyl alcohol makes this process more practical at the present time. Gino Bianchini. *Industria chimica* 9, 1167-70 (1934).

—— ♦ ——

Organic substances such as animal or vegetable oils or fats are oxidized by a gas containing free oxygen in the presence of enzymic material. The oxidation products serve as bleaching agents for oils, fats and waxes. Examples are given of the oxidation of cereal oils and partially hydrogenated cottonseed oil, with "active" soy bean flour as enzymic material. J. R. Short Milling Co. French Patent No. 766,651.

KREIS TEST WITH UNSATURATED FAT

A modified Kreis test is described for following the development of rancidity quantitatively in fresh or slightly rancid oil. Shake together equal volumes of sample and concentrated hydrochloric acid for one-half minute. Add 1 volume of a 0.5 per cent solution of phloroglucinol in alcohol. Shake the mixture again for ½ minute and add 3 volumes of ether. Continue shaking. After standing for 10 to 20 minutes, determine the color intensity of the lower layer with a Rosenheim-Schuster colorimeter and express in Lovibond units. The color intensity increases rapidly during the first 10 minutes of standing and then much more slowly, this slow increase probably being due to a slow, continued oxidation of the sample. The method is unsuitable for testing badly spoiled fats. Johs. M. Aas. *Fettchem. Umschau* **41**, 113-5 (1934).

—— ♦ ——

CRYSTALLIZATION POINT OF WAX SOLUTIONS

The crystallization points of 10 per cent solutions of 22 waxes of various types in oil of turpentine and in heavy benzine were determined by first warming the solutions to a temperature above that of the melting point of the wax in question and then noting the temperature at which the first crystalline material separated out on cooling slowly. Since this occurred at a higher temperature with the benzine solutions, it is concluded that oil of turpentine has a greater tendency to hold waxes in solution, either molecularly or colloidally dispersed. It is suggested that the smoothness of wax pastes can be promoted by compounding them in such a way that crystallization of the crystalloid components begins at a temperature not far from that of solidification of the amorphous constituents. Gustav Baerlocher. *Seifensieder-Ztg.* **61**, 655-6 (1934).

—— ♦ ——

Sulfonic compounds of dialkyl amides, mixed alkylsulfonic amides or disulfonic amides of high molecular weight and of the general formulas RCONHCOR', $RCONHSO_2R'$ or RSO_2NHSO_2R' are used as wetting, cleansing, emulsifying and softening agents in the textile and leather industries. Flesch-Werke A.-G. French Patent No. 766,497.

—— ♦ ——

Wetting, washing and dispersing agents are prepared by sulfonating urethane with aliphatic, aromatic or heterocyclic residues, free from carboxyl or sulfonic groups, linked to the nitrogen atom, or with an aromatic or heterocyclic residue in the hydroxy group. An example is a washing agent of the composition $C_{18}H_{37}CONHC_6H_4SO_3Na$. I. G. Farbenind. A.-G. German Patent No. 599,692, addition to 552,758.

—— ♦ ——

Water containing an alkaline earth metal compound is softened by adding an alkali metal metaphosphate in an amount sufficient to suppress effectively the soap-consuming alkaline earth metal ion concentration. Hall Laboratories, Inc. Canadian Patent No. 346,202.

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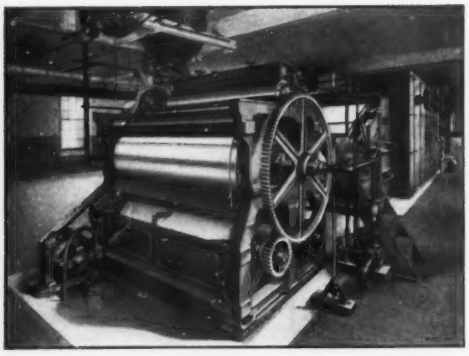

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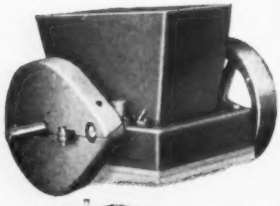
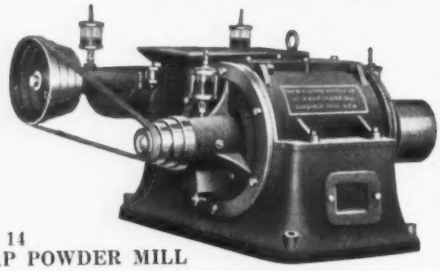


NO. 9 CRUSHER

NO. 10-A SOAP POWDER MILL



NO. 14
SOAP POWDER MILL

WRITE FOR OUR DESCRIPTIVE CIRCULARS

THE BLANCHARD MACHINE COMPANY
14 STATE ST. CAMBRIDGE, MASS., U. S. A.

In IDAHO NORTH DAKOTA and COLORADO

SOAP does not have one single subscriber. But in the other 45 States of the Union and in the District of Columbia and in 4 Territories we do have subscribers. (See our A. B. C. report.) SOAP is truly an international publication because we have 280 subscribers (also A. B. C.) in 45 foreign countries. Borrowing from some well known cigarette advertising—such widespread popularity must be deserved.

"SOAP"

The International Business Paper for the Soap and Sanitary Product Industries.

Average circulation per issue for the first six months of 1934—2,761 copies. Average paid for the same period—1,591. (A. B. C.)

PATENTS FOR SOAP ARTICLES

(*From Page 27*)

identify the individual cakes, the identifying colors and the medicaments associated therewith being in some cases referred to on the wrapper of the cake. Where, however, the medicaments themselves give tint to the cake additional pigments or coloring-matters may not be necessary. The sections are held together by an end covering of celluloid.

Patent 549,687 Nov. 12, 1895 to Samuel describes a cake of soap made by uniting two separate sections by a layer of wax. Each section is provided with receptacles on its surface which carry colored medicated sections.

A later patent (555,663 Mar. 3, 1896 to Samuel) unites the two sections by means of a tongue and groove which locks them firmly together.

Patent 754,243 Mar. 8, 1904 to Samuel shows a soap cake having a perforation extending transversely through its broader sides, and enlarged intermediate of its ends, and a filling of medicinal or chemical matter in the opening.

Another patent 651,954 June 19, 1900 to Samuel shows a sectional soap cake comprising layers or sections of soap held apart by a projection on one of the sections, and a layer of medicated matter filling the space formed between the separate sections, the layer extending out to the periphery of the cake.

Patent 790,319 May 23, 1905 to Samuel shows a cake of soap having two centrally-perforated sections, one having protuberances at the opposite ends of its inner side and the other having shallow recesses to receive the protuberances, and an intermediate mass of matter extending from the center of the cake to its peripheral edges and into the perforations.

A method of making medicated soap sheets is described in patent 755,945 March 29, 1904 to G. A. Schmidt, which consists in mixing calcined granulated porous gritty material such as pumice stone or infusorial earth with liquefied medicaments subjecting such mixture to the action of air under pressure in a sealed vessel, subsequently drying the gritty material, coating sheets of paper with soap in liquid form, and covering coated surface with the medicated gritty material before the soap has set. The sheets are then put up in packages.

Medicated soap has been provided with perforations extending entirely through the cake so that rapid movement of the cake through the water will cause the water to form currents through these openings and dissolve the soap or unctuous matter and carry it in suspension in the water, thus thoroughly impregnating the water with the antiseptic or medicinal properties contained in the soap. The outer surface of this soap is coated with the thin film of paraffin. (Patent 711,403 Oct. 14, 1902 to E. Klein).

Medicated soap containing mercuric salts is described in patent 1,083,571 Jan. 6, 1914 to W. A. Waltke. Sodium salt is milled with 1 per cent of bichloride of mercury and 2 per cent of albumin. The albumin is included to overcome any tendency of the mercuric salt to combine with the sodium soap. The medicated soap is combined with layers of ordinary soap. The medicated layer is colored to indicate its disinfectant property.

(*To be continued*)

ANALYSIS OF NAPHTHENIC EMULSIONS

To 26 grams of the sulfonaphthenic acid-fat emulsion, add 30 cc. of *N* sulfuric acid with slight heating, transfer the mixture to a separatory funnel, and add 50 cc. of ether. Shake the mixture, let the two layers separate, and draw off the lower layer which contains the sulfonaphthenic acids into another separatory funnel and wash once more with ether. Transfer the combined ether extracts to a tared flask, evaporate the ether, dry the residue for 1 hour at 100° C., and weigh the flask and contents. The content of the flask is the total saponifiable fatty acids and mineral oil. In this mixture determine the saponifiable index, and from this calculate the ricinoleic and the sulforicinoleic acids. Determine the unsaponifiable substances by the difference between the ricinoleic acid and the total saponifiable and unsaponifiable substances in the amount taken for analysis. Determine water in the emulsion by the Marcusson method. Sulfonaphthenic acids are obtained by difference, by subtracting from 100 per cent the amounts of unsaponifiable matter, sulforicinoleic acid and water. P. E. Konemovich and E. Z. Novik-Bom. Izvestiya Tzentral. *Nauch.-Issledovatel.* Inst. Kozhevennoi Prom. 1932. No. 6-7, 35.

Filled soap containing 50 to 52 per cent of fatty acids is prepared as follows: Warm 12 parts of commercial waterglass to 60-70° C. with 1 part of 38° caustic soda and 4 parts of 20° potash solutions. In a second container dissolve 1 part of sugar in 3 parts of hot water. Mix the two solutions and add 20 or 21 parts of filling solution to 100 parts of 60 to 62 per cent curd soap stock. Such a soap is less apt to become coated on standing than one containing no sugar. R. Krings. *Seifensieder-Ztg.* **61,** 396-7 (1934).

Hydrogenation of oils at higher temperatures decreases the formation of isoöleic acid. The quantity of catalyst present has practically no relation to the formation of this acid. Above 275° C., the formation ratios were much more irregular than those at 250° C. It is concluded that the hydrogenation includes side reactions like polymerization, decomposition, etc. Sei-ichi Ueno. *J. Soc. Chem. Ind., Japan* **37,** Suppl. binding 457-8 (1934).

Polymerization at 200-300° C. under reduced pressure appears to be the most efficient method for deodorizing fish oils. Gen. Matsumoto and H. Matsuo. *Reptr. Imp. Ind. Research Inst.*, Osaka, Japan. **15,** No. 3, 29 (1934).

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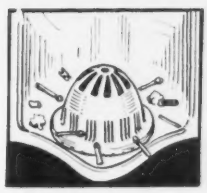

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By C. B. Gnadinger

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. . . What the reviewers say about . . .
"PYRETHRUM FLOWERS"

From The Review of Applied Entomology

"The information contained in this book on pyrethrum is taken from an extensive literature and from personal investigations of the author. In addition to chapters on the active principles of pyrethrum, its evaluation by chemical and biological methods and all aspects of its preparation and use as an insecticide, others contain information on factors affecting the quality of the flowers during storage, on methods of adulteration and their detection, and on the possibilities of pyrethrum as a commercial crop in the United States."

From review by Dr. R. C. Roark,

Insecticide Division Bureau of Chemistry and Soils, U. S. Department of Agriculture, in Industrial and Engineering Chemistry

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Description and History of Pyrethrum. Commercial Sources of Pyrethrum. Active Properties of Pyrethrum. Evaluation of Pyrethrum by Means of Chemical Methods. Biological Methods of Evaluating Pyrethrum. Comparative Value of the Different Qualities of Pyrethrum. Influence of the Effect of Light and Heat on Pyrethrum. Manufacture of Pyrethrum Extract and Household Insecticides Made From Pyrethrum. Agricultural Insecticides. Various Uses of Pyrethrum.

The book includes, as a conclusion, a table of materials and, in particular, an extremely important bibliography of all works concerning pyrethrum and its application."

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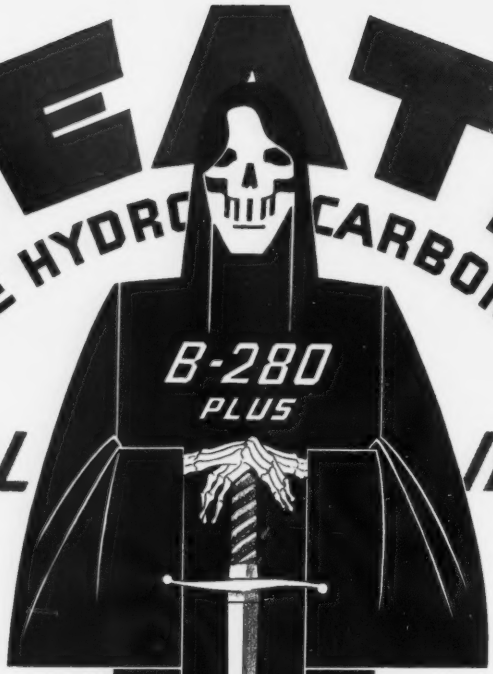

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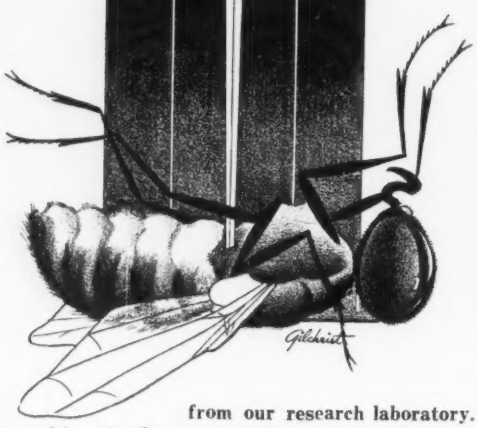

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SANITARY PRODUCTS

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

EDITORIAL

IN this issue are published a number of important reports on insecticides and disinfectants, both commercial and scientific, which were presented at the recent meeting of the National Association of Insecticide and Disinfectant Manufacturers. We feel that as a group they summarize the situation in these industries just about as completely as it can be done. They represent the views of outstanding authorities in the respective fields,—the best evidence of what the Association is doing for the industries which it serves.

IF the manufacturer of disinfectants, insecticides, and other sanitary specialties believes that he will be free from the effects of the revised food and drug bill which will come before Congress during the present session, and likewise from similar types of legislation which will be considered by various state legislatures this year, he is distinctly mistaken. The definition which will probably be adhered to in such legislation is that of the previous Copeland Bill,—"any product or device used in the cure, treatment, prevention or mitigation of disease in man or other animals." If this does not take in disinfectants, germicides, cattle sprays, animal dips, surgical soaps, and the like, we miss our guess.

Through the National Association of Insecticide and Disinfectant Manufacturers, plans are already under way to combat this year both federal and state legislation which is considered unfair and unwise, and even to aid in the intelligent formulation of revised laws where they are necessary. Through unified efforts, the Tugwell Bill was kept off the statute books last year. Through the same kind of effort this year, manufacturers in the sanitary products fields can protect their interests. If there has been a time when those firms in the industry who have held aloof from the activities of this Association, have needed to join in the fight, it will be this year. The Association needs them and they need the Association more than ever in 1935.

NOW from Massachusetts comes the disquieting news of the new law covering the sale and labeling of poisons designed for household purposes. Fluorides, phenols, arsenicals, and other products which play an important part in insecticides, disinfectants and the like seem to be rather highly restricted. Soon the good people of Boston may have to get a prescription from their doctor in order to buy a can of roach powder.

THE trend toward the marketing of liquid insecticides made with a deodorized petroleum base in place of kerosene becomes more pronounced this year than ever. No doubt exists that bad odor is the single greatest barrier in insecticide sales,—the tell-tale odor which says . . . "we have bugs." Ten years from now, it is our guess that all insecticides will be made from deodorized bases.

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Huntington Laboratories, Huntington, Ind.
W. H. Gesell ..... **Lehn & Fink, Inc., Bloomfield, N. J.**
H. W. Hamilton ..... **White Tar Co., Kearny, N. J.**
Dr. C. H. Peet ..... **Rohm & Haas, Inc, Philadelphia**
Dr. George Reddish
Lambert Pharmacal Co., St. Louis
Wallace Thomas ..... **Gulf Refining Co., Pittsburgh**
S. S. Selig ..... **The Selig Co., Atlanta**
Dr. Robert C. White
Robert C. White Co., Philadelphia
W. J. Zick ..... **Stanco, Incorporated, New York**

MEMBERSHIP

Active—Open to manufacturers and wholesale distributors of disinfectants, germicides, deodorants, insecticides, liquid soaps, polishes, and allied products. Dues—$75.00 per year.

Associate—Open to firms supplying raw materials, containers, equipment, etc., to the membership. Dues—$50.00 per year.

For further details, communicate with

NATIONAL ASSOCIATION OF INSECTICIDE & DISINFECTANT MANUFACTURERS

John H. Wright, Secretary

CHRYSLER BUILDING **NEW YORK**

Notes of the Trade

Dr. Hess & Clark, Inc., Ashland, Ohio, announce that Dr. Ray M. Batchelder is now in charge of the company's recently established laboratory of parasitology for the study of animal and poultry parasites.

Hurley Feltman, representing the Huntington Laboratories, Huntington, Ind., in Northern Indiana, was the winner of the 1934 sales contest held among the members of the sales staff of that company. The prize for the 1934 contest was a two-weeks' cruise to the West Indies for Mr. Feltman and his wife, all expenses included. Earl J. Scarry, representing Huntington in Montana and Wyoming, was the winner of second prize. Edward Lavernier took third place.

Dr. W. A. Simanton, formerly of the Department of Entomology at Iowa State College, has become associated with the Gulf Research and Development Corp., subsidiary of the Gulf Oil Corp., Pittsburgh. His work will be in entomological and chemical research on fly sprays, cattle sprays, and related insecticide products.

George H. Nowland Co., Cincinnati, manufacturers of drug specialties and insecticides, has leased the building adjoining their present factory on Pearl Street, Cincinnati, which will give them 50,000 additional square feet of factory floor space. They anticipate the addition of several new items to their line this year. They are installing new machinery and adding materially to their sales staff, according to a statement by Clark C. Nowland, general manager of the company.

Rex Research Corp., Toledo, maker of "Fly-Tox," is introducing a new antiseptic rub-inhalant under the name of "Eff-Oh." The product is packed in 25 and 50c. packages and is recommended for colds, minor injuries, insect bites, etc.

Solshine Manufacturing Co., Cambridge, Mass., manufacturer of polishes, waxes, floor cleaners, etc., is now located in new quarters at 44 Brookline Street.

Tri-State Insect Control Co., has been chartered in Portsmouth, Ohio, by Clyde L. Meados, A. J. Wellman, H. B. McGahan and H. J. Jackson.

Nu-Way Exterminating Co., Newark, N. J., formerly located at 207 Market Street, has moved to 1035 Bergen Street.

George M. Armor, vice-president of McCormick & Co., Baltimore, has been named by Gover-elect Harry W. Nice, of Maryland, as a member of the committee of drugs and allied trades to work out a plan of unemployment insurance.

Insecticide-Disinfectant Meeting

Insecticide Marketing Situation Reported Improved, but Prices Are Lower—Jobber Stocks Less—Ask Appointment of Official Testing Laboratories—Advise Against Changes in Insecticide Test—Reddish—Klarmann—Dreyfus Debate Value of Phenol Coefficient—Prepare for 1935 Legislation—C. P. McCormick New President.

SCIENTIFIC questions, code matters and legislative activities shared the spotlight at the twenty-first annual meeting of the National Association of Insecticide and Disinfectant Manufacturers, held at the Hotel McAlpin, New York, December 10 and 11. The topic for the principal scientific discussion was the significance of the phenol coefficient in evaluating disinfectants, which was argued in a spirited manner on the floor of the meeting by Dr. Emil Klarmann, Lehn & Fink, Inc., Dr. William Dreyfus, West Disinfectant Co., and Dr. George Reddish, Lambert Pharmacal Co. The full text of their interesting discussion appears elsewhere in this issue.

Code developments were reported to the meeting by Dr. Robert C. White, Robert C. White Co., chairman of the code authority, who asked the members of the industry for continued support. He reported that approval of the code budget was expected momentarily. The budget has since been approved. Frank A. Blair, president of the Proprietary Association, also spoke on the code situation, pointing out that the continued active interest of the industry is essential if the members are to profit from their code. The industry was also cautioned to exercise considerable thought on legislative matters. In this connection, the resolutions committee offered a suggestion that a legislative committee be appointed to study laws, proposed laws, and legislative tendencies as they affect manufacturers of insecticides. Such a committee has since been appointed, with John H. Wright, secretary of the association, as chairman.

The election of officers resulted in the choice of C. P. McCormick of McCormick & Co., Baltimore, as the new president of the association. Other officers chosen include the following: first vice-president, W. H. Eddy, Rochester Germicide Co., Rochester; second vice-president, William Griesmer, Black Flag Co., Baltimore; treasurer, John Powell, John Powell & Co., New York, and secretary, John H. Wright, Zonite Products Corp., New York.

The annual dinner was held at the Downtown Athletic Club, with the entertainment being something of a departure from previous custom. Following dinner, which was attended by some one hundred and fifty members and guests, a card of amateur boxing bouts was put on in the club gymnasium. Grant A. Dorland, MacNair-Dorland Co., was in charge of the dinner.

Significant reports of various leading committees, with important discussions, follow:

Report of the Committee on INSECTICIDES

By WILLIAM BOHLEN

UNQUESTIONABLY the most dominant factor that entered into the insecticide industry during the past season was the approval of the Insecticide and Disinfectant Code, notwithstanding the fact that it is still not operative. While it was not felt that this instrument would act as a panacea to cure all the attendant ills that we have been suffering from, it was reasonable to believe that by the adoption of a standardized killing power as one of its provisions, many of the headaches of reputable manufacturers would be overcome.

Unfortunately, to date there has been no provision made for the policing of this requirement of the code and as a consequence we still have with us in some sections a flood of cheap, inefficient insecticides whose manufacturers have in no way been concerned with the increased cost of both labor and material that enter into the production of an efficient, reputable product.

For want of a better plan to put teeth into this most important part of the code, may I offer the following suggestion: First, that the Association approve of three qualified entomological testing laboratories, the majority of whose findings would form the decision as to whether or not an indicted product is up to standard. While we feel that the regulatory work in connection with the code is essentially a Federal Government undertaking, we are aware that their facilities for the proper testing of insecticides that are suspected of being below standard are woefully lacking. However, I do not believe it to be impossible for us to work in cooperation with the Food, Drug and Insecticide Administration under the plan just outlined, using their facilities as a final court of appeal. I should like you to give some thought to this plan as obviously this most important provision in the code might just as well have been left out if we do not provide for the proper enforcement of it.

In addition to stepping up the killing power of the duct, manufacturers generally are adhering to the Code in their dealings with wholesalers and chains. Large allowances and secret rebates are not as prevalent as formerly. We believe this speaks well for the Code as a whole and the Code has accomplished that much even though it is not in operation. It has done away with a lot of consignment selling or guaranteed sales and in general has tended to put the industry on a higher ethical plane than heretofore.

As a result of widespread jobber interviews, we believe that there is every indication that reliable manufacturers seem to appreciate more and more the fallacy of overloading jobbers and dealers and at the present time we have reason to believe that the stagnation of stock on dealers' and jobbers' shelves prevailing during the past three or four years will not occur during the approaching season. Jobbers' stocks are smaller now than they have been for a long time past. Indications are, however, that due to the lesson they received in the past, jobbers are not overbuying on what is to them essentially a seasonable item.

Charles P. McCormick
McCormick & Co.
President, 1935

Jobbers are more careful in their buying. They are not stocking as many brands as they formerly did. They are gradually getting down to the point where they are featuring or handling not more than two brands. Of course, this is not true in every case but generally speaking the better class jobbers realize that to make profit they will have to concentrate on not more than two brands. In many cases these two brands are one of the higher price quality items and one of the lower price products. This is so that they will be able to satisfy various types of pockets; the one who insists on a quality item and the other who considers price alone.

The question of odor has become more important. Some manufacturers believe the solution to this vexing problem to be a deodorized base; others have felt that a more acceptable way of satisfying the consumer in this regard was by an improvement in the bouquet used to mask the natural odor of their product.

Despite the increase in manufacturing costs, there has been a general decrease in the retail price of insecticides and this lack of balance is due no doubt to the greater number of products that have flooded the market after made down to a price. This unbalanced condition between cost of manufacture and resale price can be perhaps best corrected by the united efforts of the members of this Association in conducting a campaign of education for the consumer, pointing out to him the fallacy of buying a low priced product.

In the matter of consumption of liquid insecticides during the past year, the Eastern States have consumed approximately the same quantity as they did a year ago. Unfortunately, however, climatic conditions in the West and some parts of the Southwest militated against the increased activity of insects. This, combined with the greatly depreciated buying power of the people in those parts of the country resulted in a considerable falling off in sales of insecticides.

Aggravating the position of the nationally advertised brand manufacture is the increased tendency on the part of grocery chains and syndicate stores to adopt private labels. This movement has not been of such startling proportions as to conclude that it is necessary for manufacturers of nationally advertised brands to reduce their prices to meet this type of competition but obviously the cost of advertising and selling an item of this description is such that it permits the product to be sold at a very low price and will require considerable thought to favorably compete with it.

W. B. Eddy
Rochester Germicide Co.
1st Vice-President, 1935

W. G. Griesemer
Black Flag Co.
2nd Vice-President, 1935

Report of Committee on Insecticide Standardization

By DR. C. H. PEET

ON August 29, 1934, a circular letter was sent to the members of Insecticide Standardization Committee, and we make that letter a part of this report: "Your Chairman has rather neglected his duties in connection with the work of this Committee on account of press of other duties. There is, however, plenty of work for our Committee to do and I wish to present some problems to you at this time.

"In the first place, Mr. F. C. Nelson, of Stanco, Inc., read a paper at the Chicago Meeting of the N.A.I.D.M. in which he made certain criticisms of the official testing method which has been adopted by our Associati and he suggested certain changes. If you did not hear this paper when it was read in Chicago, it has just been printed in the August issue of SOAP. Because I had something to do with the development of this method, I am in a rather ticklish position, since any opposition on my part to changes in the method may very easily be attributed to my personal prejudices in the matter. However, I should like to assure you that I have tried to look at this question just as impartially as possible and I do not feel that any remarks which I may make here will be colored by personal feeling."

Mr. Nelson has suggested the following changes:

1. The adoption of more than one dosage per sample, in order to obtain a kill of approximately 50%, regardless of sample strength or fly resistance. From the scientific angle, this suggestion is very sound, since the maximum accuracy of all biological test methods is attained at the 50% point. From a practical or routine test viewpoint I feel that this

suggestion complicates the method of testing out of proportion to the benefits which would be obtained. Speaking from our own experience, we find that our testing laboratory is kept busy every minute of its time, using the test as it stands. If it were necessary to add to the regular routine an additional group of tests at trial dilutions, I am afraid that the burden of testing would become discouragingly heavy.

Will you please let me have your ideas on this point?

2. The adoption of a standard check sample to replace the arbitrary 60% minimum kill.

   I am thoroughly in favor with this idea. As I believe you will recall, this point has been brought up before. I am not quite sure whether it was Dr. Badertscher, of McCormick & Co., or Mr. Nelson, of Stanco, Inc. who brought it up about a year and a half ago. At any rate, we discussed at that time the various chemicals which might be used as the standard insecticide by which other insecticides were to be judged. Various objections were raised to each of the compounds suggested. I believe that some such yardstick would go a long way toward bringing the results of tests by different laboratories into harmony with each other. Mr. Gothard's report last December showed that there is a very definite relationship between the results obtained by different laboratories, even though there is a variation between the actual figures obtained by each laboratory.

   To demonstrate whether the use of such a yardstick would actually bring the results of our several laboratories into agreement with each other, I

John Powell
John Powell & Co.
Treasurer

Dr. Robert C. White
Robt. C. White Co.
Member Board

should like to send to you four samples; three of these will be pyrethrum insecticides of unknown strength, and the fourth will be a solution of Lethane 384. I am using a solution of Lethane 384 in this instance at the suggestion of some of the members of our committee, simply in order that there may be no further delay in getting this work started. It is obvious, of course, that if we get a better agreement among our tests using this synthetic standard, we can then get together and decide which of the various chemical standards which might be used will be most satisfactory to the Association.

3. The inclusion of moribund flies in the "24-hour dead" figure.

   This will, of course, make all insecticides look better so long as a fixed kill figure is to govern our products. If, however, a standard insecticide sample is to be used as the criterion by which our products will be judged, it is probable that this suggestion would not be necessary. As I believe you know, the Committee which worked out the details of the official testing procedure stipulated that only flies which were actually dead should be counted as dead, in order to eliminate variations in personal judgment; that is, one individual might consider a fly to be moribund, whereas another person would feel that the fly in question was on its way to recovery.

4. The addition of paralysis readings during the 10-minute exposure period, in order to show the rate of paralysis.

   Personally, I do not feel that this is a very significant point and it will obviously add to the complexity of the test.

   I shall appreciate it to have your comments on this question.

5. The use of paper on the floor of the testing chamber.

   I am thoroughly in favor of this. We had felt for quite some time that the way in which flies fall onto the wet surface of the non-absorbent floor of the chamber constitutes an artificial feature in the test which ought to be eliminated. There has been some opposition to this step on the part of some members of our Association, because paper or absorbent material on the floor of the chamber does lower the apparent kill of any insecticide. In my opinion, however, tests involving the use of paper on the floor are considerably more accurate and if we can establish the advantages of using a standard sample instead of a minimum kill figure, this lowered kill will be without effect on the final interpretation of the test results.

6. Open type recovery cages in place of the closed type.

   I have no particular feeling one way or the other. I rather like the closed type idea because if a fly happens to be sufficiently active to escape from the open cage and then dies, it is lost to the test, but in the closed type cage, if the fly is active but dies later, it is right there to be counted.

7. The adoption of a standard breeding medium to replace manure.

   I think practically all of us have already done this. I believe our own laboratory was one of the last to make the change, and we did it only after quite exhaustive tests to determine whether or not the breeding medium affected the vitality of the flies. Because we found that it did not, we did not hesitate to make the change.

8. Replacement of one observation window with a periscope type of window.

   This is a detail which will not, in my opinion, in any way influence the results of the tests and I feel that this suggestion can be left to the individual members to follow or to reject.

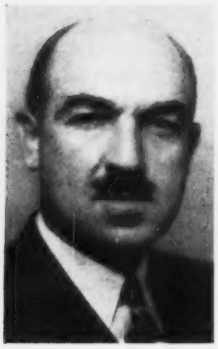
In addition to these suggestions made by Mr. Nelson, it has, also, been suggested that our Committee should make a critical study of the relation between pyrethrin analysis and biological tests on the same pyrethrum ex-

J. L. Brenn
Huntington Laboratories
Member Board

Dr. Charles H. Peet
Rohm & Haas, Inc.
Member Board

Dr. George Reddish
Lambert Pharmacal Co.

H. W. Hamilton
White Tar Co.



Samuel H. Bell
S. H. Bell Co.

S. S. Selig
The Selig Co.

W. H. Gesell
Lehn & Fink, Inc.

Members of Board of Governors, 1935

tracts. It seems that some of our members have been finding quite wide variations between the actual results obtained from some pyrethrum extracts and the results which would have been expected from their chemical analyses.

Certain questions were raised in this letter and a series of tests were proposed which we hoped would bring about a greater degree of concordance between the various laboratories using the standard testing procedure. All of the members of the Committee have cooperated very heartily in this matter, although pressure of other work delayed completion of the tests by some of the laboratories.

Referring to the specific questions raised by our circular letter, the following summary of the comments made by the collaborating laboratories has been prepared:

1. The 50% point is scientifically sound, but practically it would probably not increase the accuracy of the method beyond its inherent errors and it would complicate the method out of proportion to its value.
2. Some standard insecticidal material is preferred to an arbitrary "kill" figure such as that which is at present used by the various laboratories.
3. Most of the collaborating laboratories preferred to continue to use the actual kill at the end of 24 hours in establishing the killing power of any given insecticide. The consensus of opinion seems to be that this method eliminates a considerable factor of personal judgment.
   One laboratory very strongly favors including moribund flies in the count of dead flies.
   One laboratory feels that the test should be extended over 48 hours to make allowance for those insects which are moribund at the time of the 24-hour count.
   Another laboratory stipulates that if moribund insects are to be considered, counts at additional time intervals should be made.
4. Counts on the percentage of insects paralyzed at intervals during the test were objected to as of questionable value and accuracy.
5. The use of an absorbent mat on the floor of the testing chamber is favored by four laboratories and recorded either neutrally or unfavorably by the balance of the collaborating laboratories. The principal objection to this change seems to lie in the fact that such a change would probably invalidate most of the data which has been accumulated by the various laboratories.
6. The laboratories favored the open type recovery cage, though one of these made certain reservations in connection with their use. The rest of the laboratories favored the use of closed cages.
7. Two laboratories favor the use of horse manure as a breeding medium. All of the others favor the use of a synthetic medium of the general type developed by Richardson.
   One laboratory makes the pertinent comment that the breeding medium used makes little or no difference so long as it produces suitable flies.
8. The periscope window was considered an unnecessary refinement by all of the laboratories which collaborated in this study.

The following significant changes appear, therefore, to be generally favored:

1. The adoption of some standard material with which the effectiveness of insecticides of unknown strength may be compared.
2. Approval of synthetic breeding media.

Synthetic breeding media are so generally used now that revision of the method to provide for this change is nothing more than a formality. We have then still to consider whether there is promise that some standard will harmonize the results of different laboratories.

Four samples were distributed among the various laboratories; namely, a 20:1 pyrethrum concentrate made up to 30:1, 40:1 and 20:1 and a 3% solution of Lethane 384. Six of the collaborating laboratories found the 30:1 sample of pyrethrum to be more effective than the 40:1 solution and all of the laboratories found the 20:1 concentrate to be higher than the 30:1 solution. In other words, all of the laboratories rated these samples in the order—

Sample No. 2
Sample No. 1
Sample No. 3

in order of increasing effectiveness. Three of the laboratories found Sample No. 4 to be more effective than Sample No. 3, and four found it to be less effective.

Obviously then, so far as the determination of relative effectiveness goes, these tests are all right, and ad-

Wallace Thomas
Gulf Refining Co.
Member Board

W. J. Zick
Stanco, Incorporated
Member Board

justment of all the tests to harmonize the succeeding tests with the average of some one series gave values which fall within the apparent limits of accuracy of the method.

Your Committee has gone carefully over the data gathered by the various laboratories and is inclined to believe that a further investigation of certain features of the test will increase the accuracy of the method. Some definite suggestions were made to that end and it is to be hoped that this work will be continued.

The results obtained emphasized even more strongly than had previously appeared, the need of a basic standard against which insecticides may be measured. As we have pointed out above, tests within the same laboratory were quite consistent, but the need of some yardstick by which different laboratories may be brought into agreement is very apparent. Some suggestions as to how this might be done have been received and will be passed along to the succeeding Committee.

The question of the value of including moribund insects in the 24-hour count was discussed but on account of some difference of opinion in this matter, it was decided to take no action and make no recommendations until more data should have been gathered.

Report of the Committee on DISINFECTANTS

By GEORGE F. REDDISH, Chairman

ONE of the principal functions of the Disinfectant Committee is to keep our membership informed as to advances in the disinfectant field and so far as possible to correlate and interpret these developments as they are made. This responsibility is taken as a serious obligation to the association and every effort is made each year to fulfill its function to the fullest extent possible.

The major portion of the developmental work for the Disinfectant Committee is accomplished through three subcommittees, namely, the Disinfectant Standardization Committee, the Disinfectant Scientific Committee, and the Disinfectant Nomenclature Committee. The reports of these respective committees speak for themselves. They really cover in detail the major interests of the general Disinfectant Committee and constitute, in fact, the most important part of our report.

The Disinfectant Standardization Committee has continued their very valuable studies on certain fundamental details concerned with our standard methods of testing disinfectants. This new information is not only helpful in explaining certain inconsistencies continually met with in the laboratory testing of these products, but is of potential value for future consideration in amending these tests. Dr. Dreyfus and his committee have concentrated their efforts for the past year on pine oil and coal tar disinfectants. They have studied certain factors, such as temperature of incubation, time period of incubation and the hydrogen ion concentration of agar for stock cultures, all of which affect results obtained by these laboratory tests.

These studies, while they do not parallel, are along the lines being investigated by Brewer and Ruehle of the U. S. Food and Drug Administration. These investigators, in their recent paper in SOAP [1]have studied the effect of various concentrations of salt (NaCl) used in the culture media employed in the testing of disinfectants. As a result of these studies, the reasons for discrepancies between results obtained by the F. D. A. and the R.-W. methods are in part explained. A further result of these investigations concern the optimum salt concentration for media used in such tests. The value of such researches cannot be over-estimated and such investigations should be encouraged within our own organization. Dr. Dreyfus and his committee are to be commended for their activity in this field and the results of their efforts should be given careful consideration by all who have any interest in disinfectants.

Dr. Klarmann's report as chairman of the Disinfectant Scientific Committee covers all important scientific developments concerning disinfectants which have been advanced during the past year. This report and its subsequent publication is especially valuable to our membership in that it brings such information up to date in condensed form. Dr. Klarmann and his committee also attempt to evaluate the importance of some of these developments and to interpret their significance from the standpoint of future application.

The work of the Disinfectant Nomenclature Committee has been hampered during the past year due to lack of funds. Studies in this field had best be done in collaboration with a well-qualified lexicographer. It is practically impossible to make sound progress in this field without such cooperation. It is hoped that this committee will in the near future be given the necessary financial assistance so that it can continue the valuable work it has done in the past.

It may be of interest to note here that the last major report of the Nomenclature Committee, published through Dr. Patterson in 1932[2], has been extensively copied in various scientific journals throughout the country and is now being incorporated in the new textbooks on bacteriology. This contribution of our association to the sciences of bacteriology and public health and to the disinfectant industry has been very valuable indeed.

During the past few years considerable interest has been shown by manufacturers of disinfectants in the matter of improving the quality of their products. By increasing the germicidal strength of these products without at the same time raising the price to the consumer in the same proportion, the cost per germicidal unit has been lowered. This trend may be a product of the depression or it may be the result of competition, but in either case the consumer benefits to a very considerable extent. This benefit, such as it is, must be considered only in relation to germicidal uses, and does not include other uses for which disinfectants are employed.

Without appearing to favor the use of high coefficient disinfectants over those of low phenol coefficients, it may be of interest to calculate approximately the relationship between germicidal units and cost of coal-tar disinfectants.

It must be admitted first of all that the higher coefficient disinfectants can be diluted with much more water than the lower coefficient disinfectants and obtain the same germicidal efficiency or the same amount of germicidal units. For example, one product with double the phenol coefficient of another product can be diluted with twice the amount of water to secure the same germicidal strength. Therefore, a disinfectant having twice the phenol coefficient is actually worth twice the price of a weaker disinfectant in terms of disinfecting value. Since such a higher coefficient disinfectant possesses twice the germicidal units, it is logical to suppose that the price would be double that charged for the weaker product. However, this is not the case; the prices of the better disinfectants are really much lower than would be expected. For example, if a disinfectant having a phenol coefficient of 1 were to sell for $1.00 per gallon, while one with a phenol coefficient of 4 were to sell for only $1.25 per gallon, a considerable saving is had when the higher coefficient product is used. Although the coefficient 4 disinfectant contains 100% more germicidal units than the coefficient 2 disinfectant, the cost of the coefficient 4 product is only 25% more than the coefficient 2 product.

The same ratio of difference is obtained when comparing coefficient and cost of the high coefficient products, for example, a coefficient 10 or 20 as compared to a 2 or 4. A coefficient 10 product contains 500% more germicidal units than a coefficient 2 product, and yet it may cost but about 125% more. A phenol coefficient 20 disinfectant

[1]Testing Pine Oil Preparations. C. M. Brewer and G. L. A. Ruehle. SOAP, Vol. X, No. 10, pp. 81-83.

[2]Meaning of "Antiseptic", "Disinfectant" and Related Words. Austin M. Patterson, Journal of the American Public Health Association, Vol. XXII, No. 5, pp. 465-472; May 1932.

contains 1000% more germicidal units than a coefficient 2 product and yet may cost but about 250% more.

The above illustrations show clearly that increased germicidal efficiency of disinfectants is much out of proportion with increased cost. The increase in germicidal units in the higher coefficient disinfectants is four times greater than the increase in price over the lower coefficient disinfectants. The purchaser gets four times more germicidal units in higher coefficient disinfectants than he does in lower coefficient disinfectants for the same price.

As indicated above, this comparison of germicidal efficiency with cost of disinfectants is tenable only when those products are employed for killing bacteria. It does not hold for the other common uses of disinfectants, such as for dips, insecticidal uses, deodorants, cleansers, etc. For these purposes the phenol coefficient is of no significance whatever. When germicidal units only are to be considered the above comparisons are of much interest and are valuable to the manufacturer as well as the consumer.

DISCUSSION

DR. REDDISH: I'l like to explain what we mean by the word "trend" in this case. We say the trend to higher coefficients. Well, that does not mean that we are just now making higher coefficients, because we have known coefficient 20 for quite some time, but it is true that disinfectant distributors are asking disinfectant manufacturers for continually higher coefficients. First it was 3 and then they asked for 5 and then they asked for 6 and now they are asking for 8 and 10. So that there is a trend among the industry for higher phenol coefficients.

. . . Continuing reading, "Without appearing to favor the use", etc. . . .

Now, the reason we are using the wholesale prices is because they are somewhat more definite than consumer prices. We say that a coal tar disinfectant of 2 would sell for around a dollar to the consumer. That may vary in the different parts of the country or for different disinfectants. And I think for the purposes of comparison we would be safer to use wholesale prices of a certain date and assume that the same relative relationship would hold for the consumer prices as well.

. . . Continuing reading, "It must be admitted", etc. . . .

And I hope you will appreciate the fact that we are here considering only the germicidal uses, and not the other uses for which disinfectants are employed.

. . . Continuing reading, "For example, one product" etc. . . .

I think it is reasonable to assume that this saving, which is apparent in a comparison of these figures, will be passed on to the consumer, but exactly what the consumer price would be for the different coefficients we would, naturally, not be prepared to say because it would vary with different parts of the country and different conditions of competitive practice.

. . . Continuing reading, "The above illustrations show clearly", etc . . . (Applause).

THE CHAIRMAN: Thank you very much, Doctor.

I wonder if that paper which was so full of meat has aroused any questions in your mind. If so, we might have a discussion on it. Somebody want to speak about the paper as presented by the Disinfectant Committee Chairman?

DR. EMIL KLARMANN (Lehn & Fink, Inc., Bloomfield, N. J.): I can't make up my mind whether I should make an attempt to discuss the paper of Dr. Reddish now or whether it would be better to wait until Dr. Reddish has had an opportunity to present the second paper which deals with a closely related question.

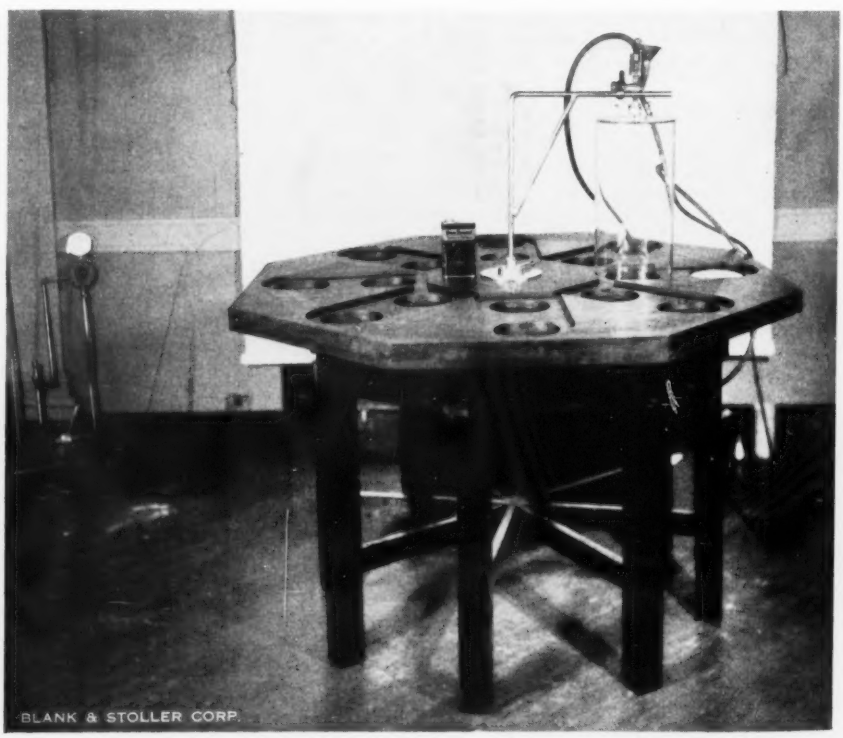


Table and equipment used in the new Campbell Method for testing liquid insecticides which was demonstrated at the 21st annual meeting of the National Assn. of Insecticide & Disfectant Manufacturers in New York by Dr. F. L. Campbell, Entomologist in charge, Section of Insect Physiology and Toxicology, U. S. Dept. of Agriculture. Dr. Campbell, the inventor of the equipment who worked out the turn-table method of testing liquid insecticides, spoke at the assocciation meeting on proposed modifications in the Peet-Grady Method. The Peet-Grady Method is the official testing method of the National Association and is also specified under the NRA Code for the industry. The table shown herewith was furnished for the demonstration by McCormick & Co., Baltimore. It was manufactured by John H. Geis & Co., Baltimore, and costs $454 complete with all fittings which include the table itself, spray arm with ratchet and roller bearings, a Devilbiss spray gun, pressure gauge and regulator, eight glass cylinders, three-way valve and all connections, 25 feet hose, eight Petri dishes with copper bands, 48 small cages and 12 large cages.

But perhaps by way of making some advance remarks I may be allowed to express some unorthodox views which will contradict some of Dr. Reddish's conclusions, but nevertheless might be of some interest to the membership at large, not so much as to any immediate practical conclusions but for a consideration of some more recent developments in this particular field.

To be quite frank and outspoken on the subject, personally I never believed very much in the phenol coefficient as an index of the germicidal value of disinfectants. I believe that on several previous occasions in these meetings I voiced these beliefs, but I never did anything more about it.

The phenol coefficient of a disinfectant, as is well known, is arrived at by the process of testing it with respect to one micro-organism, and that micro-organism is B. typhosus. If all micro-organisms which we are trying to combat with the aid of disinfectants would compare with B. typhosus in their resistance to disinfectants, then, other things being equal, it might be concluded with some degree of justification that B. typhosus furnishes an adequate means of evaluating the germicidal action of disinfectants. Such is, unfortunately, not the case.

There are micro-organisms—I don't want to group them and call them epidemic or epidemiologic—but there are micro-organs nevertheless against which the action of a disinfectant should largely be directed and these micro-organisms do not resemble B. typhosus in two respects; firstly, the resistance is not comparable to that of B. typhosus; and, secondly, they do not react to disinfectants in a comparable manner.

Perhaps I can give you a brief illustration of what is in my mind.

If you consider a compound like phenol—chemically C_6H_5OH or hydroxy-benzene, then the nearest relative, cresol or monomethyl hydroxy-benzene; then another either dimethyl or ethyl hydroxy-benzene, both of which are the next steps in the series of phenol derivatives, these compounds may properly be regarded as being close to phenol.

In some work which we had the opportunity to carry out some time ago it was shown that it is possible to observe a parallelism of germicidal action, in the case of phenol derivatives, within certain limits. In other words, if you take methyl, ethyl, propyl, phenols and use these four homologs against micro-organisms which are different, you will observe a parallelism in the action of these derivatives. In other words, if a compound like cresol, which is—I don't know the exact figure—but let us say it is three times as effective as phenol, it is not only three times as effective as phenol against B. typhosus but also against Streptococcus hemolyticus. If you take a compound like an ethyl phenol and that compound, let us say, will be seven times as effective as phenol against B. typhosus you will find it about seven times as effective as phenol aganst Streptococcus hemolyticus.

In this case it would be quite fair to postulate that within these limits the phenol coefficient determined with B. typhosus would give you a measure of the value of disinfectant against other pathogenic organisms which are used in an attempt to destroy these.

I am not speaking of any micro-organism which does not play a role in disinfection. I am not speaking of germs that occur in the skin. I am trying to adhere as much as I can to this particular field of disinfection, and I am stressing this point because it was a matter of misunderstanding in some correspondence I had with Dr. Reddish.

But now if we turn our attention to disinfectants which are not made with phenol homologs—and I may say the bulk of disinfectants now on the market are not made with phenol homologs—we must remember that they contain in addition to phenol homologs minor or major proportions of what is known as tar oils, neutral oils or hydrocarbon oils. The latter are not phenol homologs. They have no hydroxyl groups which are a significant and characteristic mark of the phenol derivative.

Now, if I may take an example. Liquor cresolis compound U. S. P. contains, roughly, 50 per cent. of cresol U. S. P. which is a mixture of ortho-, meta- and para-cresol. That compound will give you a phenol coefficient of anywhere between two and two and one-half.

Now, it is perfectly easy to prepare another compound which contains a mixture of equal parts of cresol and of tar oil. That compound would also give you a phenol coefficient of two or two and one-half or three. In other words, it would indicate a good value. But, you will find that its effect against other micro-organisms such as streptococcus would be very much less. You may come to a compound which is perfectly easily prepared—we have made them in our laboratories—which contains 10 per cent. only instead of 50 per cent. of cresol and 40 per cent. of tar oil, containing hydro-carbons and not phenols. That would give you a coefficient of three or three and one-half, but its effect against streptococcus would be so small as to be but a fraction, a fourth or a fifth, of the effect—I mean a fourth or a fifth of the effect—of the U. S. P. compound.

Now, I am not going to believe for a single moment that two compounds which have a phenol coefficient of two or two and one-half but of which one kills streptococcus in dilution of 1 to 100, for instance, and the other kills if in a dilution of 1 to 20, that these two compounds are of equal value simply because they happen to have the same phenol coefficient.

Therefore I do not believe that it is proper to evaluate the economy of disinfection simply in terms of phenol coefficients. I disagree with Dr. Reddish and I wrote it to him. As a matter of fact, I asked him to withhold a discussion of this particular question until we had a chance to thrash it out in reference to his second paper.

I do not believe that it is proper to say that two disinfectants of the same phenol coefficients have the same value or that one disinfectant A, which has twice the phenol coefficient of disinfectant B, will give the consumer twice the value in disinfecting action. I don't think that is correct. It does not hold water. B. typhosus phenol coefficient may describe the efficacy of the disinfectant against B. typhosus and certain micro-organisms which are related to it, such as B. dysenteriae, B. paratyphosus, and so forth. But it will say nothing whatsoever about the germicidal efficacy of a product of this kind against micro-organisms like hemolyticus streptococci and other similar micro-organisms.

I am fully aware of the fact that what I say now is an unorthodox statement. The phenol coefficient has been in existence for some thirty or thirty-five years and if anyone believes that the venerable age of this index of value is the reason why it should be retained without permitting of discussion, of course, I have absolutely no quarrel with any such attitude. But I felt under an obligation to at least inform the members of this Association as to the existence of some other sides of this question, and I felt it desirable that they give some thought to this particular side which is not usually aired, so that at least we among ourselves realize that there are other things which can be applied to this problem.

Of course, this information can be used in any way you see fit. It does not mean that we have to drop the phenol coefficient, but the purpose of this little discussion of Dr. Reddish's paper is to point out that it is by no means a matter of general agreement that the phenol coefficient of a coal tar disinfectant presents the sole index of its value. (Applause).

DR. WILLIAM DREYFUS (West Disinfecting Company, Long Island City, N. Y.): Mr. President, I can't let this opportunity pass without calling my friend, Dr. Klarmann, very seriously to task.

Dr. Klarmann states that his remarks are unorthodox. They are more than that. They are radical. (Laughter) At first, let me ask Dr. Klarmann to get posted on the whole subject of standardization of disinfectants, for the remarks are so academic that they don't stand any ground whatsoever.

I am going back to the early history of standardization, probably before Dr. Klarmann was born. Dr. Samuel Rideal, who was an outstanding scientist in England, was the father of standardization of phenol coefficient, by originating the Rideal-Walker test. In 1909 I had the privilege as a member of the American Public Health Association to read a paper before the Laboratory Section of that Association on the importance of bacteriological standardization of disinfectants. Up to that date disinfectants were evaluated over here on a chemical basis, such as percentage of cresols or phenols.

At that meeting the late Surgeon-General Dr. Wyman was present and heard my paper. When he came back to Washington he ordered the Hygienic Laboratory of the United States Public Health Service to investigate this matter and Dr. Anderson, its Director, and the late Dr. McClintic, Passed Assistant Surgeon, U. S. P. H., the next year in Milwaukee at the American Public Health Association's annual meeting presented their paper on the Hygienic Laboratory phenol coefficient method of the United States Public Health Service.

This method was first published in the Journal of Infectious Diseases edited in Chicago. Later on, as I said in my paper this morning, the Food and Drug Administration of the United States Department of Agriculture worked out the F. D. A. method.

Now, all those scientists have taken B. typhosus as a basis, because it is midway between low resistant and high resistant organisms.

At the American Public Health Association meetings in the early days of standardization, in 1909, 1910 and 1911, I read papers on this subject. There were radical members there present, who opposed standardization exactly as Dr. Klarmann does. We asked them, "What have you got to offer in place of it?"

If I remember right, Professor Rosenau, who is now professor of preventive medicine at Harvard, was also present at one of those meetings of the American Public Health Association, and he opposed the standardization or criticized standardization because it does not give practical interpretation for the sanitarian.

However, it was the consensus of all the gentlemen present—biologists and bacteriologists—that there is no method by which you can determine the actual value of a disinfectant in practice except you scrub a floor and make swabs and find out how much of the bacteria are killed. However, they all admitted that phenol coefficient is a yardstick so to speak between two preparations offered for sale.

DR. KLARMANN: When I had a little preliminary conversation on this subject with Dr. Reddish this morning I said to him—and I am sorry I didn't mention it before Dr. Dreyfus had an opportunity to blame me for it—that I personally do not believe that we will get very far in discussing this matter on the floor of this Convention.

This is no reflection upon any member in the Convention. This subject is a technical subject. It was simply brought out more or less by way of a correction, because Dr. Reddish made certain references in his report as to the comparative costs of disinfectants, and so while I do not expect to see the matter settled here I want to say a few more things on this subject, particularly in view of the remarks of Dr. Dreyfus.

Now, I don't believe it is necessary for me to state or to stress that I did not attempt to slur anybody. I indicated from the very beginning that I was animated to supply information which I have had available, having given particular thought to this subject, so that anyone who wished to give it further thought could do it. I thought anybody could accept scientific information without feeling touchy about it. It is information that can be duplicated in any laboratory.

I, of course, have no quarrel with Dr. Dreyfus' opinion of my lack of experience, as compared with his. I have not been active in the field as long as Dr. Dreyfus and I have every respect for Dr. Dreyfus' extensive knowledge of the subject.

I will say, however, that I do not quite agree with his contention that I have given no study to the subject at all and therefore that I am not as competent to discuss it as he is. What Dr. Dreyfus said about my remarks being meant as a defense of the cresol type of disinfectants as opposed to the emulsified type of disinfectants is not so. I have no particular bone to pick. It is all the same to me which type you consider, whether cresol or emulsified disinfectants. Dr. Dreyfus made no reference whatever to the contention which I made that there is no chemical relationship between hydro-carbon oils, constituting sometimes a goodly portion of tar oli disinfectants, and phenol homologs.

I am fully familiar with Dr. Dreyfus' history of the phenol coefficient and the various stages it went through before it came here. I am also familiar with the opposition which was made to it here and abroad. There are certain countries abroad which still do not accept the phenol coefficient as a standard of germicidal potency.

But I happen to have this booklet here and I want to read you one paragraph which occurs in the latest edition of the British Standard Technique for the Determination of Rideal-Walker Phenol Disinfectants.

And then, finally, to the point which Dr. Dreyfus brought out that if you run comparative tests of disinfectants using different micro-organisms there is a definite drop in the efficiency of disinfectants depending on the type of disinfectant.

That belief or opinion of Dr. Dreyfus is not borne out by an excellent paper which was published by Messrs. C. M. Brewer and G. L. A. Ruehle, I believe in 1931 or '32, which contains two tables of phenol coefficients, determined with coal tar disinfectants, giving milky solutions, and cresol compounds giving clear solutions.

If you have a disinfectant which happens to have a phenol coefficient of, say, 12—I don't know what Dr. Dreyfus said exactly; I think it falls down to 8.

DR. DREYFUS: 20.

DR. KLARMANN. 20. I will read them at random. Here is a disinfectant that has a phenol coefficient of 12.2 against B. typhosus, and against Staphylococcus aureus 5. Another has a phenol coefficient against B. typhosus of 15, which is higher still, but only 2.5 against Staphylococcus aureus. Another one has a phenol coefficient of 16.6 against B. typhosus, but only 5 against Staphylococcus aureus. And there is one with 19.5 against B. typhosus and 4.1 against Staphylococcus aureus.

So, you see that there is absolutely no justification for Dr. Dreyfus' allegation that there is a definite relationship between the B. typhosus phenol coefficient and the germicidal action on other micro-organisms.

DR. REDDISH: Mr. President, I'd like to make a remark here. Dr. Klarmann mentioned the paragraph in the British publication that the figures obtained by the Rideal-Walker test against B. typhosus could not be transferred over into dilution for other micro-organisms. In this country we are somewhat smarter than the British in this particular instance. I mean we have recognized all of that and realized that and we have made a universal application of a rule to overcome all the objections which Dr. Klarmann brought forth.

Dr. Klarmann left himself open there to one little criticism, unfortunately, because he knows better, I know. He told me so this morning. But he said that B. typhosus figure could not be an index to the value of disinfectants because Streptococcus hemolyticus and several others, several other germs, were not like B. typhosus in resistance and were not like B. typhosus in their kill by germicide. Well, we have taken care of that by multiplying the coefficient by 20. In other words, a coefficient of 5 will be in solution 1 to 100.

Now, I'd like to remind you of other margins of safety

which we employ in being sure that dilutions used by the consumer will be effective in killing every genealogical organism. In the first place, instead of using a few germs we use millions of them, hundreds of millions. In the case of the typhoid coefficient figure we use 700 million typhoid germs. That is one thing. That is a margin of safety. Because the objects to be disinfected don't have that many.

The other factor in the time factor, to kill 700 million germs in something like 5 or 10 minutes, when in ordinary use disinfectants will take a longer time. The other margin of safety is to use a dilution five times more concentrated than that dilution which will kill 700 million germs in 5 or 10 minutes, use five times that concentration. There is another practical standpoint.

I think when we consider that we have all these factors of safety we can consider the phenol coefficient as an index of the value of phenol compounds when we use this factor, as we must use it in this country by legislation or at least by regulation, to use a factor 20 times the coefficient. I did not mention that in my remarks but I assumed that that was all understood by all of us. We don't use a typhoid figure 450 and put it on the package that is the figure for general use.

Taking my remarks as to the value of coefficients, together with these other three factors and especially 20 times the coefficient, I think we will find that it is a perfectly reliable index.

DR. KLARMANN: In reference to what Dr. Reddish said, I am, of course, entirely in agreement with him that the tests to which disinfectants are subjected are very much more stringent than the practical conditions under which they are likely to be effective. Of course, we all know that, for instance, B. typhosus is killed by a dilution of phenol of 1 to 90 at 20 degrees Centigrade; and if instead you take a 5 per cent phenol solution, which is 1 to 20, or almost four and one-half times as strong, that you introduce a very considerable safety factor. However, I have no reference to safety factors.

We are speaking here of testing the effectiveness of disinfectants by certain methods. If we discuss a subject of this kind we have to assume that certain factors are invariable.

Now, the invariable factor as far as I can see in this present discussion is the method of test. The test specifies certain conditions and under these conditions we are considering the action of the disinfectants. If we would follow Dr. Reddish's trend of thought we could say that there is no point in specifying that 700 million micro-organisms must be killed, because 699 would be killed and the remaining one million would be taken care of by itself. This reasoning would call for a different method of testing as applied to practice, a method of testing which is known as the count method and not the survival method.

I am speaking all the time of the phenol coefficient as being one invariable factor and of the R. W. or F. D. A. methods as being the other invariable factor and only under these conditions do we compare the various results. I am quite in agreement with Dr. Reddish that we have plenty of safeguards. The chances are that in practice any disinfectant will be effective, but this is not the point at issue at all.

Now, as to this safety factor, and to come back again to the 5 per cent phenol solution, I showed Dr. Reddish this morning some interesting figures. As a matter of fact, you can derive these figures for yourself by considering the table of Brewer and Ruehle to which I referred before. I can take these columns at random. A phenol coefficient of .8 is listed as the second in the table. If you take 20 times that it gives a dilution of 1 to 16. This compound is listed as having a Staphylococcus aureus coefficient of .04. In other words, it is effective in a dilution of .04 multiplied by 60, which is, roughly—what is that?—is 1:2.5.

Now, would you use a compound in a dilution of 1 to 16 for practical disinfection purposes which is not capable of killing staphylococcus in 1 to 2.5?

Now, many of you know that certain micro-organisms resemble staphylococcus in their resistance to disinfectants. Streptococcus is one of them. Streptococcus is only comparatively little weaker in its resistance to germicides than staphylococcus. Therefore you would use against streptococci a dilution of 1 to 16 when this particular germ is not killed perhaps by 1 to 4. I leave it to you to derive it for yourself how safe this process is and how the margin of safety appears to be in this particular case. The margin of safety under practical conditions I have no quarrel with. That is a point which is not at issue. But if you consider the comparative concentrations in which germs are killed, then the situation is entirely different. Then you may find that even though you use the margin of safety of a 5 per cent phenol standard in your tests certain micro-organisms against which the disinfectant action is logically directed will not be killed.

DR. DREYFUS: In reply to Dr. Klarmann—just one minute, that is all, Mr. Chairman—he quoted an article published in "*Soap*", 1931, by Messrs. Brewer and Ruehle. This is absolutely irrelevant to Dr. Klarmann's point of discussion. This article criticized an article by Mr. Philbrick who had assumed that from a B. typhosus phenol coefficient of a product you can calculate practically the coefficient against the staphylococcus organism, which is naturally not the case.

Dr. Klarmann has really thrown cold water on standardization and phenol coefficients. I am sure every member here gathers that impression as much as I do from his remarks.

Now, what have you got in place to evaluate a disinfectant if you don't believe in phenol coefficients?

DR. KLARMANN: May I have the permission of the Chair to answer the question? Dr. Dreyfus attributes to me opinions which I don't really hold. It is not my intention to throw water on phenol coefficients or to throw water on standardization. I am all for standardization and I am very much in favor of evaluating disinfectants by some simple means.

I don't see, however, any point in attributing undue importance to a yardstick which I think I have shown to be not quite a correct yardstick but, rather, one which is open to question, to say the least. The object of my remarks is, as I may repeat, to supply some food for thought to the members as to what we can do next.

Report of Committee on Standardization of Disinfectants

By DR. WILLIAM DREYFUS

YOUR Committee last year presented the results of a study of the situation as it was developed through the prior official adoption by this Association of the F. D. A. Method for marketing Coal Tar and Pine Oil Disinfectants. In that study it was shown that the results of tests by the F. D. A. Method and the Hylab Method for Coal Tar Disinfectants were at least reasonably close, if not identical, whereas the R. W. Method gave markedly higher results. There occurred in that investigation one instance in relation to a Pine Oil Disinfectant where the two cooperating laboratories did not agree in the F. D. A. results. Attention was directed to the finding of one investigator that with a high phenol resistant E. typhi culture, the coefficiency of this product was greater than the results obtained on the same sample by the other collaborator whose culture had the normal phenol resistance. It is recognized that the phenol resistance of the culture giving the higher coefficiency with this product was above the range mentioned in Circular No. 198 of the United States Department of Agriculture. However, this does not change the technical fact that with this particular pine oil product tested by two collaborators the coefficiency was greater with the culture having greater phenol resistance, and this same factor was found right along on Pine Oil Disinfectants in routine testing by the F. D. A. Method.

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Our Committee may now well express gratification for the publication in the October issue of *Soap* of an article by Messrs. Brewer and Ruehle, Bacteriologists of the Food and Drug Administration, Department of Agriculture, dealing with the results of testing various Pine Oil Disinfectants. These investigators have in this excellent piece of work reopened the problems surrounding the differences between the chemical and physical characteristics of germicidal agents acting against cultures of micro-organisms having variable resistance according to the conditions under which they have been recently and even remotely cultivated.

Messrs. Brewer and Ruehle emphasize the influence of certain ingredients such as sodium chloride in the nutrient broth employed for growing the E. typhi under conditions not greatly different from those which they have used in the Standard procedure. The content of salt affects the osmotic relations of the broth to the growing culture and the culture develops tendencies towards such germicidal agents as the Pine Oil products, which would not be present in the culture if grown in broth not containing these amounts of salt.

About 1909 in the early history of bacteriological testing of Coal Tar Disinfectants it was found that varying percentages in the chemical composition of the same components in a product, produce marked differences of behavior towards pathogenic organisms and Messrs. Brewer and Ruehle have now proved by their researches this same factor exists in regard to Pine Oil Disinfectants, particularly that a larger percentage of soap, by reducing the surface tension, increases the efficiency of this type of Disinfectant.

Other investigators have published results or rather technical investigations having bearings on Standard Methods. Several by Professor Winslow of Yale in association with a group of colleagues during the last few years, deal with the special susceptibility of young cultures to unfavorable as well as favorable environments. Among these they too have shown that an excess of salt in the culture medium is toxic, especially to the young germs, but less so and at times stimulative to the older bacteria.

The results of another, even more directly applicable research on a standard method have been reported by Henry F. Smyth, Jr., in the October number of the "Journal of Bacteriology." In his thesis on "Evaluation of Some Factors Influencing the Phenol Resistance of Staphylococcus aureus," he calls special attention to the influences of a few hours difference in the age of the culture at the time of testing, and to the marked effects on the resistance to phenol of the culture of even one degree difference in the temperature of incubation of the culture about to be used in the test. He found differences of as great as ten per cent in duplicate tests from cultures inoculated and incubated together with all other conditions the same. From his work it is clear that there exist degrees of variability of results not possible of control by any reasonable refinements in the Methods. This may be as much as 10 per cent.

It is not necessary for practical purposes to go into any detailed discussion of these technical features of bacteriological testings. However, it is necessary in practical work to recognize the fact that high degrees of accuracy in these methods of testing and of calculating the coefficiencies are not possible. Recognizing this, your Committee last year strongly advocated the suggestion by Mr. Philbrick, a member of my Committee, that in reporting coefficients, the final figure be selected to the nearest one-tenth (0.1) if below 5, and to the nearest half (0.5) for coefficients between 5 and 15, and to the nearest unit (1.0) for coefficients between 15 and 20.

Your Committee may well emphasize this point again for in fact these ten per cent variations which may be entirely inherent in the methods and the results, constitute wider limits than those indicated by the Committee's recommendation of last year.

Such action will have to be taken by the originators of the Standard Method based on their own judgment. However, the findings of your own Committee during the past year in regard to Temperature and Time of Incubation, and the references made in this report to recent scientific publications of various investigators in this field should become of some value for future consideration in amending Standard Methods.

As this will be my last report as your Committee Chairman I may be pardoned to become a little reminiscent. Our Association is now twenty-one years old, and I have served as Chairman of the Committee on Standardization of Disinfectants ever since its inception. In the days gone by my Committee was the only one presenting to you scientific data, particularly impressing on you the necessity of a standard bacteriological method for testing disinfectants.

In the course of time two Government Departments in Washington, first the Hygienic Laboratory of the United States Public Health Service, and later the Food and Drug Administration of the United States Department of Agriculture evolved such a method to supersede the Rideal-Walker Method brought out in England as early as 1906.

Our Association has progressed in these years enormously, because today we have besides my Committee, a Scientific Committee on Disinfectants, a Committee on Standardization of Insecticides, a Scientific Committee on Insecticides, a Committee on Liquid Soap, and a Committee on Nomenclature, besides a General Committee on Disinfectants, and a General Committee on Insecticides.

These many Committees bespeak in glaring manner the growth and progress our Association has made up to date. Some of the old members probably recollect the early battles that had to be fought on the floor of meetings to convince the rank and file of our membership to the necessity of marketing their Disinfectants on the basis of Phenol Coefficient, but today there is even dissenting discussion by some of our membership whether a low, a medium or a high testing Disinfectant represents the best value to the customer. Such debating topics in the early period were unknown, because perhaps 95% of our Disinfectant membership did not believe in coefficiency at all, and felt this was an exclusive privilege for the special benefit of one or two members only, particularly for the one member who was the pioneer of this industry in America.

Report of the Scientific Section of the Insecticide Committee

By DR. ALFRED WEED

PAPERS on the subjects reviewed by this Committee in the past are so numerous for this period, that we have not considered those in the agricultural field, unless they have contained data scientific,—rather than practical. For additional information on patents pertaining to insecticides we refer to reviews by Dr. R. C. Roark, (1) A Review of Derris Patents, SOAP, v. 10, n. 3, pp. 91, 95, 97, 99; (2) New Insecticide, Germicide and Disinfectant Patents, SOAP, v. 10, n. 11, pp. 89, 91, 93, 105, and the other issues of SOAP for 1934.

Liquid Insecticides

Nelson (36) and Nelson and associates (37) have presented papers covering test procedures; the first, with reference to modifications of the Peet-Grady test which calls for 1. "adoption of more than one dosage per sample in order to obtain a kill of approximately 50%, regardless of sample strength or fly resistance, 2. adoption of a standard check sample to replace the arbitrary 60% minimum kill, 3. the inclusion of moribund with dead flies at the end of twenty-four hours, to make the method satisfactory for insecticides containing rotenone or derris extractives, 4. addition of paralysis or knock-down readings during the 10-minute exposure time, to show speed of paralytic action;" the other, a technique known as the "drop test" for use in the evaluation of liquid insecticides of the household type, by the application to each insect of a measured amount of spray liquid.

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For general use, and to preserve expensive surfaces, liquid scrubbing soaps containing Yarmor are recommended. They are used to advantage on tile, cork, linoleum, mastic, terrazzo, marble, glass, porcelain, and metalware. These soaps are powerful solvents for grease and dirt, and they clean rapidly and efficiently.

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QQ-48

Murphy and Peet (34), last December, reported their results upon a series of insecticides containing lethane 384 and pyrethrum as the toxic ingredients with a variety of petroleum distillates as the vehicle. Their work indicates that the toxic strength of the insecticidal materials can be materially increased, if oils of the proper specifications are used.

Bissell (6) suggests for a spray to kill flies in barns and houses the formula of Twinn, C. R., and Herman, F. A. (Sc. Agr. V. 8, p. 44, 1928). This calls for the steeping for 2 hours of one-half pound of pyrethrum in kerosene with occasional stirring and decanting of the clear liquid from the sediment. Three ounces of methyl salicylate per gallon may be used to cover the kerosene odor.

Baber (4) in an attempt to discover a cheap and effective spray for use against flies and mosquitoes in South Africa concludes that the killing power of the sprays could not be judged by the number of insects apparently dead in 3 hours or less, as some recovered after this lapse of time; the number dead after 12 hours was therefore recorded. A saturated solution of naphthalene in kerosene proved to be moderately effective and has the advantage of being cheap. Proprietary extracts of pyrethrum were very effective, and the addition of citronella oil definitely increased their toxicity; the most satisfactory formula was 1 part of a proprietary extract of pyrethrum to 64 parts of kerosene with the addition of 5% citronella oil and 15% petrol (the latter being introduced to increase the volatility of the kerosene.

The Ministry of Health (London) (32) in a study of the bedbug reports two cheap sprays have been found effective; one consisting of 50 gallons of kerosene, 2 gallons of orthodichlorobenzene and 1 gallon of methyl salicylate, and the other of 1,000 parts of kerosene, 2 parts of oil of mirbane (nitro-benzene), 2 parts of cresol and 10 parts of ground flowers of pyrethrum (the pyrethrum being steeped in the liquid for 24 hours and then filtered out.)

In the cattle spray field Wilson, Pearson and Cannon (53) report on a series of fly repellent oils (toxic and/or repellent constituents not disclosed) which were tested at the rate of 2 ounces per cow, per day. Five of these sprays caused obvious injury (loss of hair and cracking or peeling of skin). Five of these sprays did not induce marked increases in body temperature over unsprayed cows.

Nelson (35) at our last annual convention, in a paper "Commercial Cattle Sprays," discussed the literature, base oils, toxicity, repellents, effect on milk flow, and uses of these sprays.

Freeborn and associates (17) in their last paper on fly sprays attribute increase in body temperature of dairy cows to the petroleum oil in these sprays, hence combinations of pyrethrum extract and pine oil in aqueous emulsions were tested. Alkaline emulsifying agents brought about some deterioration in strength during 6 months' storage. The formulae of the two best emulsions are given. The amount of pyrethrum and pine oil in these water emulsions was adjusted at the same level as previously tested where petroleum was the carrier.

Repellents

In connection with these spray investigations three papers on repellents are of interest. Baranov (5) reports several thousand domestic animals were killed in the northeastern portion of Jugoslavia in April and May of 1934 by an outbreak of *Simulium reptans columbaczense*, Schonb. (a relative of the black fly and turkey gnat). An ointment consisting of 3 parts of rectified kerosene to 10 parts of yellow vaseline, and a solution of 1 part of naphthalene and 10 parts of liquid paraffin were found to be effective.

Mail (30) tested as repellents several derivatives of salicylic acid. Methyl monobromosalicilate retained its repellent properties for five hours, but thereafter completely lost it. Monobromosalicilate repelled 100% for 3 hours and remained highly repellent for longer than did the methylmonobromosalicilate. Some success was obtained in stalls by the use of a creosote spray.

A Statement to the Insecticide and Disinfectant Manufacturing Industry

THE budget of the Code Authority covering expenses of enforcement of the Insecticide and Disinfectant Manufacturing Code, has been approved by the NRA. In the near future, all manufacturers of household insecticides, disinfectants, and associated products coming under this code, will be called upon for payment of the first assessment as authorized by the NRA.

The prompt payment of this assessment is mandatory upon every manufacturer coming under the Code,—every firm is legally required to pay under the law. This is specifically called to the attention of all manufacturers in the industry at this time.

Preparations are now well along for a strict enforcement of all provisions of the Code. Upon completion of the remaining details of organization, interpretations covering questions of compliance as submitted by individual manufacturers,—and other matters of code enforcement,—will receive the immediate attention of the Code Authority.

In the meantime, it is specifically requested that members of the industry do not ask for detailed interpretations of code provisions,—and that payment of the first assessment of ¼ of 1% based on sales figures for 1933 of products coming under this Code, be made promptly, upon receipt of notification, to Ernst & Ernst, confidential accountants approved by the NRA, at the First National Bank Building, Baltimore.

ROBERT C. WHITE,
Chairman, Code Authority,
Insecticide & Disinfectant
Manufacturing Industry.

Moore (33) tested as repellents for mosquitoes essential oils, terpenes and their esters. The terpene alcohols as a class were more effective than terpene hydrocarbons and the ester in each case was superior to the corresponding alcohol. Confirmation of these findings was obtained with tests on flies. The most satisfactory compound was santalyl acetate. Dialkyl phthalates and the pyrethrins were found to be excellent repellents and odorless.

Cleveland, U. S. Pat. 1,963,955. An insect repellent comprises an aralkyl ester of salicylic acid.

Grant, U. S. Pat. 1,934,057. An insect repellent comprising a petroleum white oil, an extract of a plant belonging to the class known as fish poisons (e.g., derris or cube) and an emulsifying agent.

Synthetics

Breakey (8) reports results on a variety of insects including aphids, thrips and red spiders with Halowax, which is a chlorinated naphthalene product.

Hartzell and Wilcoxon (23) present a preliminary study made of the toxicity of fifteen organic thiocyanogen compounds on *Aphis rumicis* L. on nasturtiums, when used as spray materials. The compounds used included both aliphatic and aromatic compounds of various types. Several of these compounds exhibited toxicity to Aphis rumicis, at the concentration used (0.1%) much greater than that of the corresponding halogen compounds. In several cases injury to nasturtium plants was noted. When injury and toxicity are considered, the most satisfactory compound was gammathiocyanopropyl phenyl ether. This

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compound was further tested on mealy bugs (*Pseudococcus citri* Risso) and red spider mite (*Tetranychus telarius* L.) giving excellent control. Out of the 20 species of plants sprayed with this compound, at a concentration of 0.1%, only buckwheat showed injury. Observations of the symptoms produced on the cockroach (*Periplaneta americana* L.) by this compound indicated that it possessed the properties of a paralytic agent. Meal worm larvae (*Tenebrio molitor* L.) were killed by gammathiocyanopropyl phenyl ether applied externally. Following the technique used in the detection of paralysis involving the use of toluidine blue, death is caused apparently by injury of the central nervous system, accompanied by paralysis.

Salzberg and Bousquet, U. S. Pat. No. 1,963,100. Claim lauryl thiocyanate which boils at about 154-156° C. under 2½ mm. pressure, which is substantially insoluble in water but soluble in ethyl alcohol and which is toxic against lower forms of life.

Pyrethrum, Derris, Rotenone (Miscellany)

Headlee (24) has stated that the only organic insecticides that can be considered for use as substitutes for the arsenicals must be looked for in tobacco, pyrethrum, derris and other plants carrying rotenone, petroleum oils and pine oils.

Roark (42) states that the ideal insecticide is more likely to be found among organic rather than inorganic compounds.

Wheeler (52) reports both pyrethrum and derris dusts lose strength on exposure, sunlight being the chief factor causing deterioration through photo-chemical oxidation. After small quantities of pyrethrum dust, having a known content of pyrethrin I, were exposed to the action of sunlight for definite periods, the amount of pyrethrin I remaining after the photo-chemical oxidation was determined, and these samples were then tested on 35 females of *T. imaginis*. It was found that the relation between content of pyrethrin I and duration of exposure shows that the rate of deterioration is approximately proportional to the concentration for about 8 hours. For longer exposures than 8 hours, the rate of photo-chemical decomposition falls off, but even after 45 hours of exposure, an appreciable amount of pyrethrin I was left. The pyrethrin I content gives an approximate estimate of the toxicity of the deteriorated powder. The sample exposed for 25 hours being equivalent in toxic properties to a dust that had remained on the fruit tree for 3 days, still had a marked repellent action on the thrip. Rotenone, and the related constituents of derris, likewise lose their toxicity by photo-chemical oxidation on exposure to light at a much slower rate than do the pyrethrins. Rotenone was fund to be not so effective against T. imaginis as an equivalent amount of Pyrethrin I, but derris dust containing a comparatively high percentage of rotenone gave favorable results. A sample of commercial dust containing crushed derris root, barium fluosilicate and sulphur exposed to sunlight for 24 hours decreased in rotenone content 40% and in toxic effect on the thrip 35%.

Hartzell (22) has found nerve lesions in the meal worm larvae (*Tenebrio molitor* L.) and adult grasshopper (*Melanoplus femur-rubrum* De Geer) that have been killed by pyrethrum concentrate applied externally, following a technique used in the detection of paralysis in humans, which involves the use of toluidine blue. Lesions were found throughout the main parts of the central nervous system, also in the brain, the suboesophageal ganglion, and thoracic ganglia, abdominal ganglia, and in the connectives of the above-named species. From a study of the histopathology of the nerves if insects killed by the pyrethrins, one is led to conclude that death is caused by the destruction of the cells of the central nervous system, accompanied by paralysis. Lesions were found in the central nerve gandlia of meal worm larvae killed by triorthocresyl phosphate. No destruction of nerve tissue comparable to that caused by the pyrethrins was found in the above-named species of insects killed by rotenone. Meal worm larvae killed by exposure for 2 minutes in a high ratio frequency field of approximately 300,000,000 cycles showed nerve lesions unlike those induced in larvae killed by heat at 52° C. applied externally. On frogs' gastrocnemius muscle the curve produced by a pyrethrin treatment appeared to be of a definite type and the relaxation time was somewhat greater than that of a normal muscle.

Swingle (47) reports that cabbage-leaf sandwiches containing derris-gelatin and pyrethrum-gelatin were fed to full-grown imported cabbage worms, and the contact action of the treated gelatin films was also studied. Under the conditions of the experiments, derris acted as a powerful stomach poison and pyrethrum as a contact poison.

Grant, U. S. Pat. 1,490,646. Extracts the active insecticidal principles from pyrethrum, derris, cube or tephrosia with a mixture of petroleum hydrocarbon, a blending agent, and an emulsifying agent.

Badertscher, U. S. Pat. 1,940,899. Talc impregnated with pyrethrum extract may be admixed if desired with ground cube or derris root.

Mills and Fayerweather, U. S. Pat. 1,942,827. 1:2-dihydroxy-4-teritary-butyl benzene and 1:2-dihydroxy-4-teritary-amyl benzene. These compounds may be employed as stabilizers for insecticide compositions, such as pyrethrum and derris.

Fulton, U. S. Pat. 1,967,024. An insecticide, substantially anhydrous, suitable for household use comprises pyrethrins, rotenone and a mixed solvent. A suitable insecticide is made by dissolving 0.025 per cent by weight of rotenone in a 1:8 pyrethrum kerosene extract.

Standard Oil Development Co., Canadian Pat. 340,315. An improved insecticide comprising hydrocarbons obtained by the extraction of a petroleum naphtha with a solvent having a preferential solvent action for the hydrocarbons, and containing the extractives of at least one of the plants selected from the group consisting of pyrethrum, cube, derris and the like.

Pyrethrum

Shepard (44) calls attention to confusion in the field of plant chemistry since "pyrethrin" was first used by Buckheim to designate the active principle in the roots of *Anacyclus pyrethrum* (Linn.) D. C., the pellitory of medicine, a counter-irritant.

Virgilio Lucas (29) states that in Brazil the insecticidal value of pyrethrum is based on its oleo resin content. The author maintains that a good pyrethrum flower should have from 7.3 to 12% of oleo resins. He finds upon the analysis of several lots of Brazilian grown pyrethrum flowers, and those grown from abroad, that in only one instance did a foreign grown pyrethrum flower have an oleo resin content of 8.7%, which compared favorably with the flowers grown in Brazil, which he maintains consistently run from 7.3 to 12% of the oleo resin. The analysis of 15 lots of foreign grown pyrethrum flowers showed them to range from 4.66 to 7.3% oleo resin content. Concerning Brazilian grown pyrethrum flowers, in which, by analysis, a small quantity of starch was found, the author states "Perhaps this is a method of distinguishing our product from similar products of other origins, because in foreign pyrethrum I never found any starch."

Seil (43) has introduced a shorter and less complicated acid method for the "Estimation of Pyrethrins." This method, which is based on the determination of the acids combined with the pyrethrolon, is applicable to both the pyrethrum flowers and the kerosene extract of the flowers.

Gnadinger and Corl (20). A comparison of the results of the analysis of pyrethrum flowers and pyrethrum concentrate in kerosene was made between the Seil Method, which is an acid method, and the Gnadinger and Corl Method, which is a copper reduction method. The tabulated results show that the Gnadinger Corl Method gives slightly lower results than does the Seil Method.

Chou and Chu (13) have reported chrycanthin, $C_{14}H_{12}O_3$ rhomboid crystals, m. 200° C. and chrysanthene, $C_{15}H_{32}O$ in needles, m. 80° C. from *C. cinerariaefolium*.

Audiffren (3) finds that monocarboxylic chrysanthemic acid in aqueous concentration of about 1-1000 to 1 in

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10,000 gives no reaction with Deniges reagent but in a sulphuric acid medium a reaction occurs, sensitive to 1 part in 100,000 of the acid.

Mann (31) in preparing a concentrated extract of pyrethrum states that the flowers are cut up and extracted for eight hours with ethylene chloride. After standing over night, they are extracted for another two hours with the same solvent. This process is repeated four times with fresh portions of solvent. The first two extractions are used for the recovery of Pyrethrum, and the last two for the initial extraction of a new batch. The extracts are distilled in a vacuum at 60° C. The residue is extracted with a petroleum distillate, alcohol, acetone or carbontetrachloride. The extract is kept at zero degrees Centigrade for three days to allow traces of resins to settle out.

Swellengrebel (46), in his address on the anti-mosquito work at Medemblik from 1926 onwards, reports fly sprays useful in houses to combat Anopheles. Kerosene containing 0.5% Pyrethrum extract, 0.5% oil of sassafras and 2% methyl salicylate is a cheap and effective spray. The pyrethrum extract is made preferably with Japanese flowerheads extracted with petroleum ether.

Nijkamp and Swellengrebel (38) point out the importance of destroying hibernating adult mosquitoes in dwellings and stables and that whereas proprietary fly sprays have proved suitable, their cost bars them from general use. Some tests are reported upon proprietary fly sprays where a dosage of 2 c.c. of the solution was used per cubic meter. A kerosene tested against *Musca domestica* L. at the concentration cited induced a 6% mortality, whereas a kerosene rich in naphthenes, with a boiling point of 200-250° C., induced an 8% kill. Where commercial pyrethrum extracts were used with ordinary kerosene and one rich in naphthenes, no significant difference in the mortality of the sprays was observed. For combatting mosquitoes indoors the following formula was used:— 10 grams pyrethrum extract, 1 liter kerosene, 20 cubic centimeters methyl salicylate, 5 cubic centimeters oil of sassafras. For use in stables:— 10 grams pyrethrum extract, 10 cubic centimeters oil of sassafras, 20 cubic centimeters methyl salicylate, 450 cubic centimeters vaseline oil, and 550 cubic centimeters kerosene was found satisfactory. In combatting bedbugs it was necessary to increase the pyrethrum to 25 grams per liter of kerosene and spray at least 15 cubic centimeters per cubic meter. It is reported that such a treatment resulted in a lasting disinfection of a house. This spray was less successful against fleas.

Rebrassier (40) finds pyrethrum powder (0.8% pyrethrins) in doses of 200 milligrams administered in gelatine capsules to 30 chickens was rated as 95.14% efficient in the elimination of *Ascaridia lineata*.

Kemper (25) publishes a continuation of previous work initiated by himself and along the lines of studies by W. Buchmann, in the use of pyrethrum powder as a means of combatting arthropods, molluscs, worms and rotifers in water supply, drainage and sewage systems in Germany. The outcome of these investigations may in part be summarized as follows:— 2 milligrams of powder per liter control the Isopod (*Asellus aquaticus*); 3-4 milligrams per liter control mosquito, Cheronomid and Eristalis larvae; 5 milligrams not injurious to fish; pyrethrum powder did not affect Protozoa nor the micro-organisms concerned in sewage purification; its effects were more lasting in stagnant than in aerated waters; its effects were not destroyed by differences in pH or hardness encountered in practice, but were by strong acid and alkali; the suspensions lost much of their toxicity in 3-4 days; filtration experiments showed a rapid liberation of the active principles in water, that the particles of pyrethrum occur in water in colloidal form and that the toxicity of the suspensions was not decreased by filtering unless particles of 0.005-0.01 micions were removed.

Alessandrini (2) states that during the campaign in 1933 against malaria in the Pontine district round the Via Appis, fly sprays and sprayers were supplied to the inhabitants for the destruction of mosquitoes in dwellings.

Kunz (27) points out that pyrethrum sprays of the odorless type can be adapted to many uses before prevented, as a variety of odors has been developed by the chemist, in which the odor of the pyrethrum extract constitutes a useful part of the odor combination desired.

In a communication to the Editor of the Jour. Am. Med. Ass. and also Science Supplement, June 1, 1934, p. 10— S. M. Feinberg (10), it is reported that for some years it has been known that dermatitis and allergic manifestations on the respiratory tract may occur as a result of exposure to pyrethrum material. The conclusions are:— (1) pyrethrum commonly used in insecticides may cause hay fever and asthma, (2) a patient may have coexistent sensitivity to the substance and to pollens of grasses and weeds, (3) exposure of such an individual to an insecticide containing pyrethrum may explain the apparent failure of resensitization for hay fever in a case heretofore successfully treated.

Favorable results with pyrethrum grown in Kenya (15) has stimulated its cultivation. From a very limited farm scale, the amount has been increased to a point exceeding domestic requirements and export is encouraged. The Kenya flowers were of very good quality and reported to contain as much as 0.5% to 0.60% pyrethrum I. The local conditions of climate and soil are varying but pyrethrum has been found to thrive in most of the locations where trial plantings have been made. It appears to flourish in most districts over 5,000 feet. Flowers dried on farms are baled at the Kenya Farmers Ass'n, Nakuru. The problem of artificial drying in damp climates is receiving the attention of the Producers Ass'n. The Department of Agriculture is doing its utmost to encourage and assist the new industry. It is at present investigating the extent to which local conditions affect the pyrethrin content of the flowers. Besides high toxicity, Kenya pyrethrum growers will be able to offer their customers the very great advantage of freshly harvested flowers from one end of the year to the other. Production is being increased with the utmost rapidity and it is likely that the quantity of flowers available for export up to the end of 1935 will amount to the comparatively negligible figure of 100 tons or so and the high standard of quality will be assured.

Pyrethrum Patents

Sankowsky U. S. Pat. No. 1,933,077. Pyrethrum flowers may be extracted in an extraction column in the form of a mass containing interstices. A solvent such as kerosene is distributed over the flowers at a rate of less than sufficient to flood the interstices of the material with solvent, so that the solvent is caused to flow substantially over the exterior surfaces and through the intercellular surfaces of the flowers, and the resulting comparatively concentrated extract is withdrawn from the bottom of the extraction column. The apparatus is described.

Badertscher, U. S. Pat. No. 1,938,652. A horticultural spray is made from pine oil and an insecticide such as a kerosene extract of pyrethrum, with a sufficient addition of dispentene substantially to inhibit the tendency of the pine oil to burn foliage. The composition may be used in the form of an aqueous soap emulsion.

Sankowsky, U. S. Pat. No. 1,945,235. A process of manufacturing pyrethrum insecticide comprises preparing a strong solution of pyrethrum extract in a light petroleum distillate agitating the solution with anhydrous methyl alcohol to dissolve part of the pyrethrum extract in the alcohol, separating the alcohol layer from the light hydrocarbon layer, cooling the alcohol solution and removing the separated impurities, distilling off the alcohol to obtain as residue a purified extract containing the pyrethrins and dissolving the said extract in water white kerosene.

Adams, U. S. Pat. No. 1,957,429. An insecticide and insectifuge, comprises the oil-soluble extract from pyrethrum flowers and a small proportion of dibutyl phthalate dissolved in a mineral oil.

Shell Development Co., Canadian Pat. No. 343,209. The

(*Turn to Page* 101)

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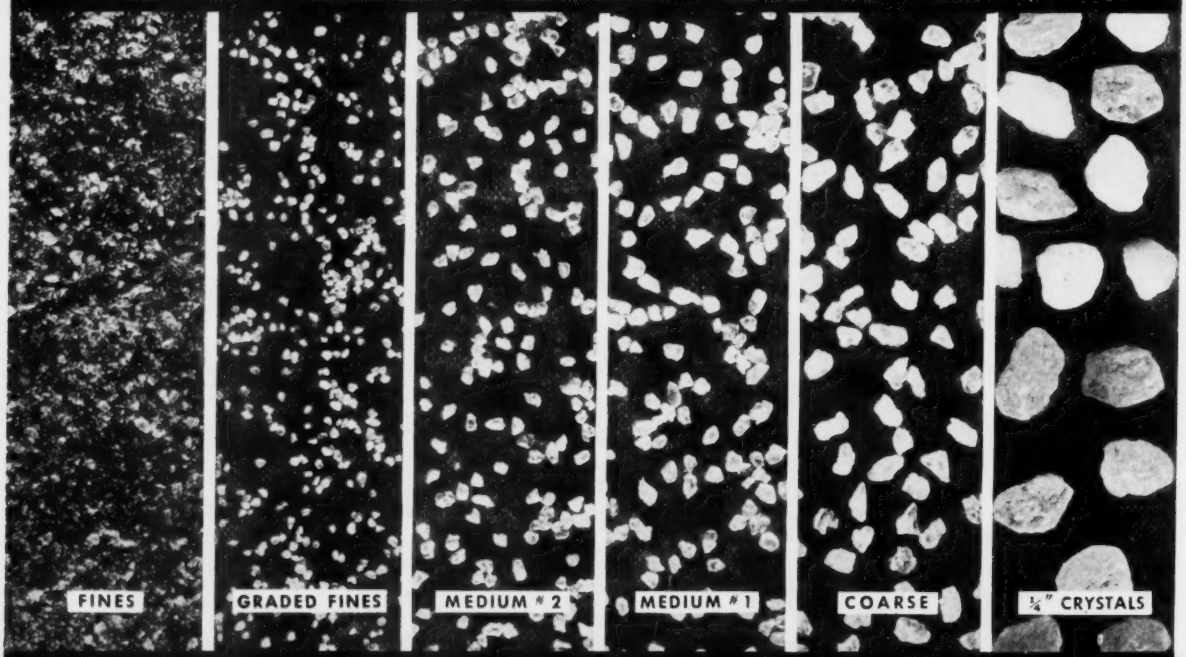

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APPOINTS 1935 COMMITTEES

Charles P. McCormick, McCormick & Co., Baltimore, president of the National Association of Insecticide & Disinfectant Manufacturers, has announced the appointment of committees for that Association for 1935, as follows:

Committee on Disinfectants

General

W. B. Eddy, Chairman, Rochester Germicide Co.
Melvin Fuld, Fuld Brothers, Inc.
Peter Dougan, Merck & Co.
W. H. Gesell, Lehn & Fink, Inc.
H. W. Hamilton, White Tar Co.
H. A. Nelson, Chemical Supply Co.

Scientific Section

Dr. Emil Klarmann, Chairman, Lehn & Fink, Inc.
Dr. J. W. E. Harrison, LaWall & Harrison.
D. H. Little, Hercules Powder Co.
William Hadfield, General Laboratories.

Standardization Section

B. G. Philbrick, Chairman, Skinner & Sherman.
Dr. G. F. Reddish, Lambert Pharmacal Co.
Dr. Emil Klarmann, Lehn & Fink, Inc.
Dr. William Dreyfus, West Disinfecting Co.

Committee on Insecticides

General

W. G. Griesemer, Chairman, Black Flag Co.
Wallace Thomas, Gulf Refining Co.
John Curlett, McCormick & Co.
Robert C. White, Jr., Robert C. White Co.
W. J. Zick, Stanco, Incorporated.

Scientific and Standards Section

Dr. C. H. Peet, Chairman, Rohm & Haas, Inc.
N. J. Gothard, Sinclair Refining Co.
R. W. Birdsall, Derris, Inc.
Dr. Alfred Weed, John Powell & Co.
G. A. McLaughlin, McLaughlin, Gormley, King Co.
Dr. A. E. Badertscher, McCormick & Co.
Friar Thompson, Jr., Hercules Powder Co.
Frank Nelson, Stanco, Incorporated.
Dr. A. W. Simanton, Gulf Refining Co.

Literature and Patents Section

O. M. Poole, Chairman, Derris, Inc.
Dr. Eric Meyer, L. Sonneborn Sons, Inc.
H. M. Clark, Dr. Hess & Clark, Inc.
D. F. Murphy, Rohm & Haas, Inc.
H. Noble, S. B. Penick & Co.

Committee on Sanitary Specialties

L. B. Schwarcz, Chairman, Clifton Chemical Co.
R. H. Young, Davies-Young Soap Co.
C. M. VanDyne, American Disinfecting Co.
J. L. Brenn, Huntington Laboratories.

Sanitary Supply Sales Section

S. S. Selig, Chairman, The Selig Company.
F. J. Pollnow, Vestal Chemical Co.
John Marcuse, West Disinfecting Co.
Karl Dolge, C. B. Dolge Co.

Committee on Antiseptics

Dr. Geo. Reddish, Chairman, Lambert Pharmacal Co.
W. H. Gesell, Lehn & Fink, Inc.
John H. Wright, Zonite Products Corp.

Committee on Legislation

John H. Wright, Chairman, Zonite Products Corp.
Dr. Robert C. White, Robert C. White Co.
W. B. Eddy, Rochester Germicide Co.
W. G. Griesemer, Black Flag Co.
H. W. Hamilton, White Tar Co.

Membership Committee

J. L. Brenn, Chairman, Huntington Laboratories.
John Powell, (East) John Powell & Co.
S. H. Bell, (Middle West) S. H. Bell Co.
Fred Hoyt, (South) Frederick Disinfectant Co.
J. B. Rosefield, (West) An-Fo Manufacturing Co.

Convention and Reception Committee

John Powell, Chairman, John Powell & Co.
C. C. Baird, Baird & McGuire, Inc.
R. H. Young, Davies-Young Soap Co.
P. B. Heller, B. Heller Co.
A. L. van Ameringen, van Ameringen-Haebler, Inc.
G. A. Dorland, (Entertainment) MacNair-Dorland Co.

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H. W. Hamilton, Chairman, White Tar Co.
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Percy C. Magnus, Magnus, Mabee & Reynard, Inc.
J. A. Walsh, Rochester Germicide Co.
Carl Seiffe, Zonite Products Corp.

SPECIAL I. & D. BOARD MEETING

A special meeting of the Board of Governors of the National Association of Insecticide & Disinfectant Manufacturers was held at the Penn Athletic Club, Philadelphia, on Jan. 4, to lay out plans for the activities of the Association for 1935, particularly in the matters of the legislative situation and expansion of membership. C. P. McCormick, McCormick & Co., newly elected president of the organization, presided. Others present included W. G. Griesemer of Black Flag Co.; Samuel H. Bell of the S. H. Bell Co.; John Powell of John Powell & Co.; John H. Wright of Zonite Products Corp.; W. J. Zick of Stanco, Inc.; W. B. Eddy of Rochester Germicide Co.; H. W. Hamilton of White Tar Co.; Dr. R. C. White of Robert C. White Co., and Dr. C. H. Peet of Rohm & Haas, Inc.

The board discussed the duties of newly created committees of the Association, particularly the committee of legislation and the committee on sanitary specialties. It discussed revamping the present dues with a view to encouraging membership by numerous smaller firms in the industry. It also discussed cooperation with other associations in opposing arbitrary and unfair legislation in 1935.

The board voted to hold the annual mid-year meeting this year on June 10 and 11 at the Edgewater Beach Hotel, Chicago. John Powell will be in charge of general convention arrangements and H. W. Hamilton as head of the program committee.

Lehn & Fink, Ltd., of Canada, have announced a new advertising campaign to begin immediately with McConnell & Fergusson, Ltd., acting as agents. A large list of daily papers will be used supplemented by magazines and weeklies.

Keystone Exterminating Co., Brooklyn, has taken new quarters at 8903 Fifth Avenue.

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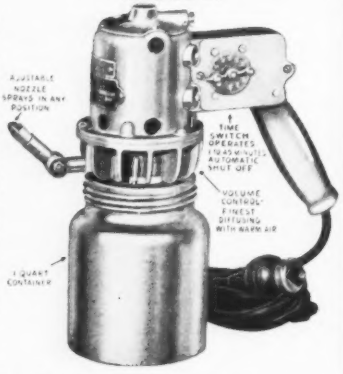
MODEL 54

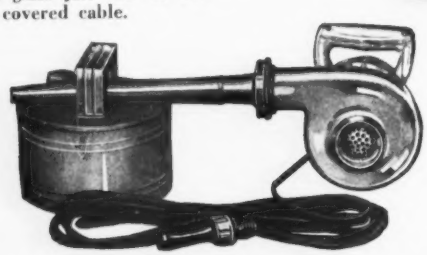
Here is the new sprayer you've been looking for. It features an automatic time switch set at any point from 1 to 45 minutes — sprays desired amount without any attention whatever — automatically shuts off. Can also be used for hand spraying. Adjustable nozzle can be set for spraying in any position. Also exclusive volume control adjustment permits spraying one ounce every two to four minutes with either fine or heavy spray. Don't fail to get the facts on this new type sprayer before buying.


ADJUSTABLE NOZZLE SPRAYS IN ANY POSITION
TIME SWITCH OPERATES 1 TO 45 MINUTES AUTOMATIC SHUT OFF
VOLUME CONTROL FINEST DITSONG WITH WARM AIR
1 QUART CONTAINER

Also Most Complete Line of Electric Sprayers to Enable You to Meet Every Spraying Problem

Model 53 new Compressor Type unit with new adjustable volume control. Will break insecticide into *finest* mist and gas formation mechanically obtainable. Floats throughout spraying area for many minutes—a truly de luxe model! ⅛ H.P. G.E. Universal Motor. 1 quart metal container. 20′ of rubber covered cable.

Model 50 Fan Type unit. A fine insecticide atomizer. Sprays distance of 8′ to 10′. ⅛ H.P. G.E. Universal Motor, 1 pint glass jar. 20′ of rubber covered cable.



Model 6 Fan Type unit. Will break insecticide into a very fine mist. Sprays 18′ to 20′. 1/3 H.P. G.E. Universal Motor. Norma Ball Bearings, 1 gallon metal container. This model is for larger institutions, warehouses, industrials, etc., and is also highly recommended for mothproofing solutions. Write today for complete description and circulars.

BREUER ELECTRIC MFG. CO.
862 Blackhawk Street Chicago, Ill.

We do not sell insecticides. Our business is manufacturing sprayers.

SPECIALTY SOAPS

LIQUID SOAP BASE
Coco Oil—60%—Natural, Opal, Green

LIQUID SOAPS
Coconut ..... 10% to 45%
Olive Oil ..... 10% to 30%
Colored and Perfumed

SCRUBBING SOAPS
Pine, Sassafras, Plain

LIQUID SHAMPOOS
Coconut Oil .. 30% to 45%
Olive Oil 30%
Castile 30%

POWDERED and GRANULATED SOAPS
Castile, U. S. P.
Coco Castile 50-50
Pure Coconut

SOFT POTASH SOAPS
Light and Dark
U. S. P. 9th and 10th

PHONE CUMBERLAND 6-2800
KRANICH SOAP CO.
54-60 RICHARDS ST. BROOKLYN, N.Y.

L. O. HILLYARD DEAD

L. O. Hillyard, 60, founder and president of the Midland Chemical Laboratories, Inc., Dubuque, Iowa, manufacturers of soaps and sanitary supplies, died January 3, having been ill for several months. He was a self-made man, his entire life being founded on hard work from the time of his birth at Corydon, Ia., September 4, 1874. He founded his firm in 1903, having been with the Standard Oil Company for many years. He was prominent in civic activities, a Mason and member of the International Bible Students' association. His widow, a son, daughter, a brother and two sisters survive him. Interment was in Linwood cemetery, Dubuque.

—— ♦ ——

Dr. Robert C. White was chosen "the most valuable worker for the Penn Athletic Club" of Philadelphia for the year 1934 and was awarded a silver trophy by Judge Frank Smith, president of the Club in behalf of the members. He stated that Dr. White has served as executive director of the Club "at a dollar less than a dollar per year" and turned a heavy deficit in 1933 into a surplus in 1934. Dr. White is chairman of the Code Authority of the Insecticide and Disinfectant Manufacturing Industry and a member of the board of the National Association of Insecticide & Disinfectant Manufacturers.

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H. M. Clark of Dr. Hess & Clark, Inc., Ashland, Ohio, is the recipient of a signal honor from some twenty-odd leading members of the disinfectant and insecticide industry, reports state. He has been receiving numerous bills and statements of account in the small matter of a series of wagers made recently on the fracas staged by Alabama and Stanford in the Rose Bowl on the Pacific Coast. Mr. Clark, an alumnus of Stanford, is reputed to have backed his love for his alma mammy with cash with the aforementioned sad results. He is reported to have acquired an intense hatred for roses and to have banished all bowls from the family table, even those used by Jim, Jr.

—— ♦ ——

Inclusion of a new section in the code for the furniture, floor wax and polish industry, to do away with bad practices in the exchange of goods was discussed at a hearing in Washington before deputy administrator Earl W. Dahlberg last month. An amendment was suggested prohibiting the accepting by any member of the industry of merchandise other than its own in payment for products of the industry. The section covering election of members to the code authority was also discussed, and it was agreed to work out an arrangement on this point fair to both large and small companies.

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Hydrol Chemical Co., Philadelphia, is now located in a new factory at 1424 Market Street.

—— ♦ ——

Manhattan Exterminating & Fumigating Co., Milwaukee, is now located at 1112 W. Highland Avenue.

WALSH JOINS ROCHESTER GERMICIDE

J. A. Walsh, formerly with C. B. Dolge Co., Westport, Conn., joined Rochester Germicide Co., Rochester, N. Y., December 24, and will take charge of the New York office of the company. Mr. Walsh has had wide experience in the sanitary products field with several different companies. As a matter of fact, he was practically born into the industry, as his father was one of the first pioneers and developers of sanitary chemicals fifty years ago. Included in his father's early work was the mosquito clean-up in the Canal Zone, which made construction of the Panama Canal possible. For five years, starting in 1924, Mr. Walsh was connected with his father's company, The Phinotas Co. In November, 1929, he joined the C. B. Dolge Co., and has been with them continuously up until the recent move to Rochester Germicide Co.

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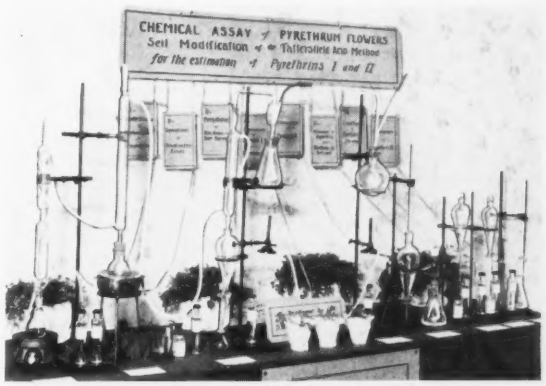
An interesting exhibit was made by S. B. Penick & Company of New York at the recent meeting of the National Insecticide & Disinfectant Manufacturers Association at the McAlpin Hotel in New York.


CHEMICAL ASSAY of PYRETHRUM FLOWERS
Seil Modification of the Tattersfield Acid Method
for the estimation of Pyrethrins I and II

The exhibit included specimens of pyrethrum flowers, derris and cube root, in their whole form, in which they are not generally seen, also in their powdered form, and the extracts of various strengths. An exhibit of the Seil modification of the Tattersfield method for the estimation of Pyrethrins I and II was also shown in active operation. This requires eight different processes as indicated in the photograph. Another exhibit showed pyrethrum flowers about three months old, which were furnished by the Bureau of Plant Industry of the Department of Agriculture.

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The annual sales meeting of U. S. Sanitary Specialties Co. was held in the Roosevelt Room of the LaSalle Hotel, December 27th. The annual banquet followed the meeting. A separate sales meeting was held in New York for the representatives in that area. The following night, December 28th, the Christmas party for the entire organization was held at the company's offices. One hundred and thirty-five employees attended the buffet supper, dancing and entertainment.

Insecticides

Perfume Oils For

Of paramount importance to the manufacturer is the adoption of a Perfume that will please the consuming public. MM&R KEROSPRAY BOUQUETS fit in with present day needs for perfume of refinement, and will add that necessary "punch" to insure sales appeal. . . . We thoroughly recommend:

PERFUME OIL KEROSPRAY BOUQUET MM&R

(Concentrated)

No. 801	No. 804
No. 802	No. 805
No. 803	No. 806

Use in the proportion of 1 ounce to 3 to 5 gallons of finished spray, depending on the base. They are very economical.

If you are looking for something distinctive for your liquid soaps, we suggest:

PERFUME OIL BLUEBELL MM&R
PERFUME OIL ROSE BLEU MM&R
PERFUME OIL COLONIAL BOUQUET MM&R
PERFUME OIL JASMINE "S" MM&R
PERFUME OIL COLOGNE D.M.G. MM&R
PERFUME OIL CORYLOPSIS NO. 604

Magnus, Mabee & Reynard, Inc.

32 CLIFF STREET, NEW YORK

Essential Oils ***Aromatic Chemicals Perfume Materials***

CROWN CHEMICAL ADDRESS UNCHANGED

It was stated incorrectly in the December issue of SOAP that the offices of the Crown Chemical Co., Milwaukee, had been moved. We are advised that no move has been made and offices are still located at 125 E. Wells St. Incidentally the reason for the mistaken reference is rather interesting. H. E. Padway, president of the company, writes as follows in pointing out our error: "In recent months the writer has discovered that some of the boys in the office have been taking your magazine 'SOAP' home to read and I would first see it from two to four weeks later, so I decided to fool them and have the magazine sent to my home where I would get it first.

"I therefore wrote you to please change the address and the result of it was that your December issue on page 35 carried a notation that the Crown Chemical Co. had moved its offices, which is not the fact."

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Steps are being taken by the fumigating and exterminating industries to work out a public liability insurance policy covering fumigating and exterminating work that will give full specific coverage for firms engaged in this type work. A study of policies now in effect discloses that, contrary to the belief of the holders in some cases, the policies do not actually give proper coverage, with the result that many concerns who feel they are insured really have no protection at all. In the standard policy developed there is no question as to full coverage, and rates are said to be lower than those previously offered in any all-inclusive policy. Full details may be obtained from the National Association of Exterminators and Fumigators, or through the R & H Chemicals Division of E. I. du Pont de Nemours & Co., New York.

'Lo, the Poor Indian!

'Lo the poor Indian.—Big Joe Stanford.—him bet big wampum on Indians . . . Big Joe, him write checks many moons . . . poor Indians . . . they lose . . . Alabama—29 . . . Stanford—13 . . . Big Joe . . . he eat beans many moons too . . . Indians, he no should bet . . . him get many letters say deep sorrow . . . please remit!

Notes of the Trade

Getz Exterminators, Inc., St. Louis, announces removal of its office and sales room from 87 Hunter Street, S. W., to 53 Forsyth Street, N. W., effective January 1, 1935.

—— ♦ ——

Representatives from all parts of the United States gathered in Chicago, January 2-3 for the annual sales meeting of the H. D. Hudson Mfg. Co. Sales plans for 1935 and features of the new models, which will be announced soon, were discussed.

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R. J. Prentiss, president of Benkert & Co., pyrethrum and derris products, New York, sailed December 21 on the *S. S. Kungsholm* on a two-weeks' cruise to the West Indies, Central America and Venezuela.

—— ♦ ——

John Gormley, one of the founders of McLaughlin Gormley King Co., Minneapolis, died suddenly, December 25, at the age of seventy. Mr. Gormley served as president of McLaughlin Gormley King Co. for several years and at the time of his death was vice-president, although he did not take an active part in the business.

—— ♦ ——

About 125,000 kilos of disinfectants are wanted by the Egyptian Government on bids to be submitted by Feb. 1. About 110 lots of 1,000 kilos each of 18-20 general disinfectant by the Rideal-Walker Method (British Standard), packed in five gallon steel drums, and 12,600 kilos of cresol disinfectant, 2-3 British R-W Method, packed in one kilo tins, are wanted. Further details of the requirements may be secured from the Chemical Division, Department of Commerce, Washington, D. C.

—— ♦ ——

The Pepsodent Co., Chicago, has worked out a new sales program for 1935 which includes a lowering of its price, a lower suggested minimum resale price and a 10 per cent increase in the size of the tube. The Pepsodent plan is designed to guarantee every dealer a profit of from 10 per cent to 21 per cent even if competition forces him to sell at the code minimum, according to W. R. Kerner, new Pepsodent sales manager.

The annual Christmas party of McCormick & Co., Baltimore, was held this year on the evening of December 24, with Charles P. McCormick, president of the company, taking an active part in the celebration. Dr. John Glassford, chief chemist, also had a place on the program, entertaining with several Scotch dances in costume.

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A luncheon meeting is to be held Thursday noon, January 17, at the Drug & Chemical Club, New York, to outline plans for the tenth annual dinner of the drug, chemical and allied trades division of the New York Board of Trade. The dinner is to be held this year at the Waldorf-Astoria, March 21.

THEIR QUALITY

Deserves Your Preference

Reilly COAL TAR PRODUCTS

CRESYLIC ACID
CRESOL
CRESOL U.S.P.
XYLENOL
TAR ACID OILS
NAPHTHALENE

For the Soap and Disinfectant Industry

12 *Convenient Plants*

REILLY

TAR & CHEMICAL CORPORATION

MERCHANTS BANK BUILDING . . . INDIANAPOLIS, IND.

SEATTLE, WASH. • PROVO, UTAH • MINNEAPOLIS, MINN. • CHICAGO, ILL. • GRANITE CITY, ILL. • INDIANAPOLIS, IND. • DOVER, OHIO • FAIRMONT, W. VA. • NEWARK, N. J. • NORFOLK, VA. • CHATTANOOGA, TENN. • MOBILE, ALA.

With the **HUDSON**

Electric Sprayer she will find more uses for your product

Because it will find more uses in any household, the Hudson Electric Sprayer No. 305 will widen your market for your product.

It is especially effective in the application of insecticides, moth-proofing compounds and disinfectants. Because of the efficiency of the spray, the bugs never come back—nor do complaints on the solutions used.

The nozzle adjustment makes possible a wide range, from a heavy wet spray to a fine floating vapor.

The Hudson Electric Sprayer is also very efficient for applying lacquers, enamels and similar types of paint — the change over is easy and simple. Moth-Proofing Needle Attachment is also available.

It is widely adaptable in use —and widely adaptable in the selling of your product. It is attractive, substantially built of brass — chromium plated. Any desired information will be sent on request.

H. D. HUDSON MANUFACTURING CO.
582 E. Illinois St., Chicago, Ill.

HUDSON SPRAYERS

On December 1 the Dixie Disinfecting Company, Dallas, Texas, moved from 2000-2002 Magnolia St. to larger quarters at 923-925 So. Harwood. The company was organized in 1921. With the beginning of 1934 a reorganization has been effected with S. P. Solomonson, president; F. Oelsner, vice-president, and J. O. Solomonson, secretary-treasurer. W. C. Stephens, who has been with the company since its organization, is now manager. Greatly improved business was enjoyed during 1934.

Connecticut Chemical Disinfectant Co. has been organized in New Haven, Conn., by E. T. and C. F. Ahern and Marie A. Kiernan.

REPORT OF INSECTICIDE COMMITTEE

(*From Page 93*)

toxicity of insecticides containing a mineral oil distillate and the active principles of pyrethrum flowers is stabilized by adding a substituted aryl compound in which at least one hydrogen atom of the aromatic nucleus is replaced by an amino, a hydroxyl, or an alkyl radicle.

Cattanach, British Patent No. 401,519. An insecticide in jelly form suitable for dilution with water, is prepared by saponifying a mixture of fatty substances such as lard and cocoanut oil, with caustic alkali. This product is neutralized or rendered slightly acid, and then incorporated with a mineral oil extract of pyrethrum.

Compagnie universelle du Negoce, French Pat. No. 761,228. Pyrethrins may be extracted by halogenated hydrocarbons, such as ethyl chloride or ethylene bromide.

Bouma, Dutch Pat. No. 30,941. An extract of quassia wood, rhatany root or pyrethrum flowers is added to a fatty or ethereal oil which has been treated with sulfur; for example, 6 parts of linseed oil heated to 120°C. with 1 part of sulfur. Glue, gelatin, and powdered materials may be added to the mixture.

Mori, Japanese Pat. No. 101,075. A new insecticide is made by heating a mixture of machine oil, sulfur, pine resin, soap, pyrethrum and eucalyptus oil.

Rotenone (Derris, Cube, etc.)

Tischler (49) presented experiments on absorption and the physiological effects of derris. Entrance into the body through the alimentary tract and the respiratory system is demonstrated. Toxic effects in silkworm larvae were induced by topical applications to the integument indicating absorption through certain areas of the exoskeleton, probably associated with the solubility of certain constituents of derris in body exudates. The physiological studies indicate that derris acts upon the respiratory function inhibiting oxygen-utilization and that its injurious effects are general rather than confined to any organ or system.

The Pharmacognosy Subcommittee of the British Pharmaceutical Codex for 1934 (39) has defined derris as the dried rhizome and roots of *Derris elliptica* and *D. malaccensis*, which should contain not more than 6 per cent ash and not less than 10 per cent material extractable with ether.

Takei and associates (48) describe a method for determining rotenone and deguelin in derris root by converting these compounds to their dehydro derivatives. In each of the seven samples tested by them there was more deguelin than rotenone.

Gross and Smith (21) have described a new colorimetric method for the determination of rotenone plus deguelin in an acetone extract of derris. It is believed that this method will prove useful for the assaying of derris and cube roots and also of proprietary insecticides containing derris or cube extract.

Ginsburg and Granett (18) give an abstract of a paper dealing with tests of the toxicity of derris root powder and its exhausted residues when applied in coarsely and finely ground dusts to silkworms (*Bombyx mori*, L.), cabbage worms (*Pieris*) and apple aphis (*Aphis pomi*, DeG.). Derris root was more toxic to A. pomi when the dust was applied to wet rather than to dry foliage. Residue from derris root after complete extraction with acetone had practically no action on A. pomi, but was both toxic and repellent to the caterpillars. Residue left after extraction first with acetone and then with water did not appear to be directly toxic to the caterpillars, but deterred them from feeding on the dusted foliage.

Ginsburg, Schmitt and Granett (19) find that water soluble organic solvents such as acetone and alcohol are able to extract practically all of the water-soluble and water-insoluble ingredients of derris root toxic to sucking insects. Either continuous distillation, or soaking with subsequent filtration and washing will extract practically all the active principles when acetone or alcohol is used. Water does not extract all the toxic principles of derris root. At low dilutions, the water extracts compared well in toxicity with acetone and alcohol extracts, but proved inferior to them in high dilutions. Water extracts deteriorate rapidly on standing, with resultant loss of toxicity.

Campbell and associates (11) tested kerosene extracts of four samples of derris root, three of cube root, and one of Haiari stems, against house flies by a modified laboratory method. All were effective. The extracts of derris roots were on the whole more effective than those of cube. The extract of Haiari stems was the least effective. Rotenone is not the only toxic component of kerosene extracts of these plant materials, but it appears to be an important one. Methoxyl content may be a better chemical index of the insecticidal value of rotenone-bearing plants then rotenone content.

Campbell, Sullivan and Jones (12) tested comparable kerosene extracts of good samples of derris root and pyrethrum flowers against house flies in a small glass chamber, in Peet-Grady chamber, and in rooms. The pyrethrum extracts were more effective in paralyzing flies, the derris extracts more effective in killing them. The relative merits of the two extracts are discussed. It is believed that kerosene extracts of derris have practical possibilities in house fly sprays.

Crane (14) states that rotenone has a new use as a parasiticide. It is non-toxic to dogs in amounts up to 0.2 gram per kilogram of body weight. Doses of 0.1 to 0.2 gram cause transitory gastritis and enteritus. Young dogs are less apt to be nauseated by very large doses than are old animals. Fed in doses of 0.05 gram per kilogram of body weight, rotenone is effective against the dog hookworm, *Ankylostoma canina*, and the roundworms, *Toxascaris limbata* and *Belascaris marginata*. It is only moderately effective against the coccidium of dogs and is ineffective against canine tapeworms. In general, rotenone causes an unusually rapid recovery from follicular mange. The best results are obtained by administering the drug after the animal has been starved for 18 to 24 hours.

Bock (7) has reported experiments with an alcoholic extract of derris plus soft soap against caterpillars, plant lice, beetles and ground-fleas on fruit trees, berry bushes, ornamental shrubs, roses and vegetables. Good results were obtained. A shepherd dog given rotenone as an anthelmintic tolerated without symptoms three doses of 0.05 gram per day and Bock swallowed 0.1 gram without effect.

Turner and Townsend (50) report the successful mothproofing of the felts in an upright piano with a solution of rotenone in carbontetrachloride (1-500).

Subramaniam (45) gives a list of plants used as fish poisons in Mysore and tests of sprays and dusts made from *Mundulea suberosa* as insecticides are briefly described. A powder made from the dried bark scattered thinly over grain in bins gave complete protection against pests, particularly Bruchids.

...how much for smell?

WHETHER it is an undesirable odor in your product which you want to cover,—or whether it is a pleasing fragrance which you desire to add,—whether it be in a

Liquid Insecticide
Para Product
Floor Wax
Cleaning Fluid
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will cut your odor covering or perfuming cost.

VIOFLOR masks undesirable odors to such an extent that much smaller quantities of perfuming material are needed,—a saving of 40 to 50% in perfume cost.

VIOFLOR acts as a fixative for the perfuming agent, saving loss of odor value.

VIOFLOR permits the use of finer, higher priced perfumes at no increase in perfuming cost.

Send for a sample to test in your product.

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John Powell & Co., Inc.
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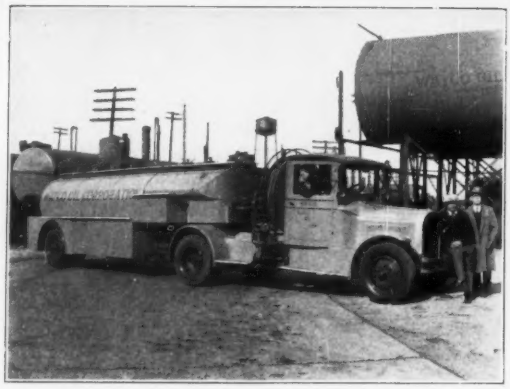

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The maintenance man does the buying of these finishes—the same man you sell your other products. Now you can offer him a further service and tremendously expand your market.

G. F. B. Aluminum Concentrated Base Color is the same high standard of quality as all Federal Products with these exceptional features:

1. Ii has plus hiding qualities. Gives unusual results on one coat work.
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4. Gym Finish and the bakelite vehicle give it extreme durability. Resists exposure, acids, alcohol, alkalis.
5. Unusual hiding and spreading power makes it economical in cost per square foot. Its durability makes repainting less frequent.

Let us tell you more about this newest product of our laboratories and how you can increase your sales and profits in this huge field.

Write to-day for complete information and a trial sample.

FEDERAL VARNISH CO.
337 So. Peoria St. Chicago, Ill.

Uichanco (51) in a study of three species of Philippine derris covers their distribution, chemical examinations of them and includes a lengthy bibliography.

Adriano (1) reported that twelve species of derris are known to occur in the Philippines. The rotenone content of nineteen samples of Philippine derris root was found to range from 0.02 to 1.68 per cent on a moisture-free basis. A large derris plantation is under cultivation by one of the sugar companies at Canlubang, Laguna.

Imperial Institute of Great Britain (9) has reported on derris roots from New Guinea. For exports from that country the dried root is packed in bales of about 225 pounds and compressed to twelve cubic feet to save freightage. During the period of January to August, 1933, 350.5 tons of derris root were exported from Malaya. In 1930 only 55.5 tons were exported. About one-fourth of these exports were shipped to the United States. Samples of New Guinea root were analyzed for rotenone and total carbontetrachloride extract. The fine roots contained 3.2 per cent rotenone and 7.8 per cent total extract whereas the coarse roots contained 2.1 per cent rotenone and 4.8 per cent total extract. In an additional note (10) the bulletin has also reported on the growing of derris in Ceylon. Unde rubber the above-ground growth of both *Derris malaccensis* and *D. elliptica* is extremely poor and it has made no headway at all. Of the two, D. malaccensis has made the better growth.

The East African Agricultural Research Station (54) is experimenting in the growing of insecticidal plants, especially *Tephrosia vogelii*. This plant is known to contain tephrosin and deguelin which are also constituents of derris and cube roots.

Kollhass (26) has reported on derris root growing in the Dutch East Indies. Dutch roots with as high as 12.6 per cent rotenone have been found. Thirty-two samples of derris root ranged from 0.3 to 10.9 per cent rotenone with an average content of about 3 per cent on a moisture-free basis. The experiment stations in Java and Sumatra are endeavoring to select derris of very high rotenone content for planting in the Dutch East Indies. The yield of dry root per plant ranges from 260 to 375 grams. From the Dutch East Indies the roots are usually exported in bales, weighing from 100 to 200 pounds. Fumigation of the roots and storage in tightly closed boxes is recommended to protect them from borers and to prevent the formation of mold.

Roark (41) reports devil's shoestring (*Cracca virginiana* L.) a potential source of rotenone and related insecticides. (multigraphed—June, 1934). The roots of this plant have yielded from 0.7 to 1 per cent of rotenone and tephrosin and related compounds have been isolated. As much as 9 per cent of acetone extractable material has been obtained.

Additional papers cited by title would include: Notes on the occurrence of Rotenone in species of *Derris* and *Lonchocarpus*. Howard A. Jones. Journ. Wash. Acad. Sci., v. 23, n. 11, pp. 493-496, (1933). A further study of the toxicity of derivatives of rotenone with goldfish as the test animal. W. A. Gersdorff. Journ. Amer. Chem. Soc., v. 56, n. 4, pp. 979-980 (1934). Toxicarol. V. 7-Hydroxy-toxicarol and related compounds E. P. Clark. Journ. Amer. Chem. Soc., v. 46, n. 4, pp. 987-991. (1934). Rotenone XXIX. The Isomerism of the Rotenolones. F. B. La Forge (28) and H. L. Fuller. Journ. Amer. Chem. Soc., v. 56, n. 7, pp. 1620-1625 (1934).

Jones, U. S. Pat. Nos. 1,928,256, 1,928,968. A process of producing liquid insecticides containing rotenone in a colloidal state of dispersion by dissolving a plant extract containing rotenone in pyridine or in acetone and adding these solutions to water. When using the acetone solution of rotenone, tannic acid should be present.

Jones, U. S. Pat. No. 1,942,104. Preparation of a rotenone solvate ($C_{23}H_{22}O_6 \cdot CCl_4$) by extracting derris or cube roots with warm carbontetrachloride and crystallizing.

Haller and Schaeffer, U. S. Pat. No. 1,945,312. A process of making dihydrorotenone by hydrogenating at rotenone-bearing plant extract dissolved in an organic

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solvent in the presence of a nickel catalyst. It is believed that dihydrorotenone will become of commercial importance because it is even more toxic than rotenone to certain insects; it is more stable than rotenone to light, and its use avoids some of the patent complications attending the use of rotenone.

Bousquet and Tisdale, U. S. Pat. No. 1,954,517. A contact insecticide comprises a water emulsion of the beta-beta-dichlordiethyl ether and an insecticide of the group consisting of water insoluble dithiocarbamates, water insoluble thiuram sulphides and the toxic ingredient of derris root.

Adams, Canadian Patent No. 338,896. A mothproofing composition consisting of a chlorinated hydrocarbon extract of cube incorporated in a mixture consisting of 9 parts of a light hydrocarbon oil and 1 part of chlorinated hydrocarbon.

McGill, Canadian Patent No. 338,897. A solution for rendering fabrics mothproof contains extract of derris in petroleum naphtha having a boiling point of 450-550°F.

Your Chairman wishes to express his appreciation for the assistance given him by the other members of his section in preparing this report.

It has been suggested to this Committee that a questionnaire be issued to obtain from the membership specifications covering fly spray base oils, with a view toward the possible establishment of general specifications for adoption by the Association. We refer this to the next committee.

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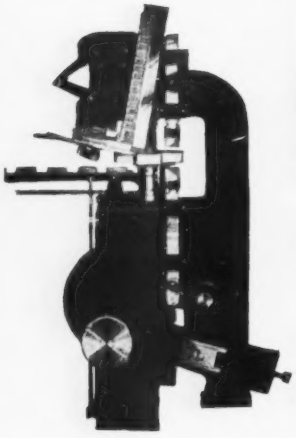

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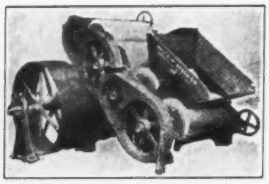

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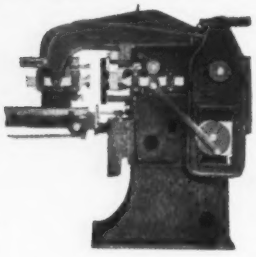

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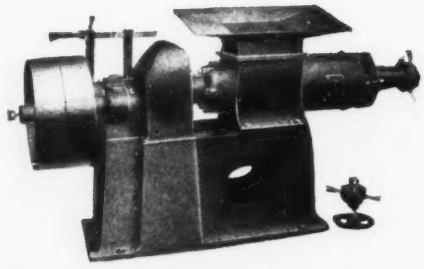

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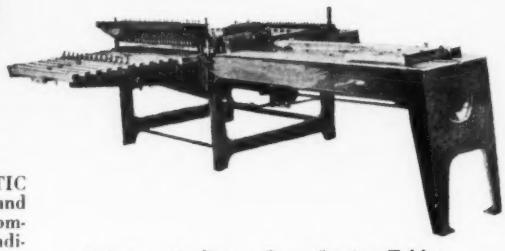

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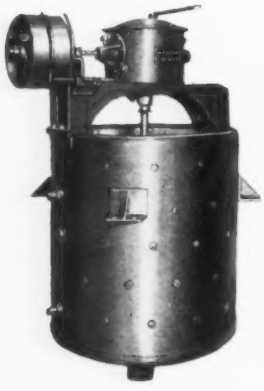

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NO CHEMICAL SOLVENTS
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SIMPLY PETROLEUM DISTILLATES
RESULTS!
FULL
KILL COLOR ODOR
AN-FO MFG. COMPANY, OAKLAND, CAL.

KOPPERS
WHITE TAR
MOTH PROOFING PRODUCTS
Deodorizing
AND MOTHPROOFING
Blocks
PLAIN AND PERFUMED
MADE WITH NAPHTHALENE OR PARA BASE
NAPHTHALENE FLAKES, CHIPS, etc.
DISINFECTANTS EMULSION AND SOLUBLE TYPES
FLY SPRAYS HOUSEHOLD SPRAYS CATTLE SPRAYS
MEMBER
NATIONAL INSECTICIDE AND DISINFECTANT MFRS. INC. 1914
THE WHITE TAR COMPANY
OF NEW JERSEY, INC.
PHONE KEARNY 2-3600
BELLEVILLE PIKE KEARNY, N. J.

SWANN TSP
TO FIND A BETTER WAY
UNIFORM
FREE FLOWING
READILY SOLUBLE
CRYSTALLINE OR GLOBULAR
TRI SODIUM PHOSPHATE
SWANN CHEMICAL COMPANY
BIRMINGHAM
Division of
THE SWANN CORPORATION
District Offices
Charlotte Cleveland New York Dallas St. Louis

We Manufacture
For The Trade ONLY
Liquid Soap Base
Auto Soaps
Potash Oil Soap
Shampoo
U.S.P. Cresol Compound
Coal Tar Disinfectants
Liquid Soap
Pine Oil Soap
U.S.P. Green Soap
Shampoo Base
Pine Oil Disinfectants
Insecticides
Ask for samples of these specialty bulk products
HARLEY SOAP CO.
2852 E. Pacific St. Philadelphia

Soapmaker and Chemist — Thoroughly experienced and with wide knowledge of the soap business, seeks permanent connection with reliable company. Address Box No. 482, care *Soap.*

Soapmaker—26 years' experience laundry and toilet soaps. Capable of handling any kettle department. Address Box No. 483, care *Soap.*

POSITIONS OPEN

A Prominent Manufacturer of liquid soaps, disinfectants, deodorizing cakes, etc., has an opening for a dependable sales representative. Address Box No. 481, care *Soap.*

Wanted—Salesman experienced in the selling of cleaning and maintenance supplies to large consumers such as, theatres, office buildings, apartment houses, hotels, chain restaurants. Product well known in the market for over 50 years. Salary and commission. Address Box No. 485, care *Soap.*

Exclusive territory open in all large cities of this country to men of ability on straight commission basis. Product is a carpet, rug and upholstery cleaning powder. Address Guaranty Washing Co., 220—5th Ave., N. Y. City.

Miscellaneous

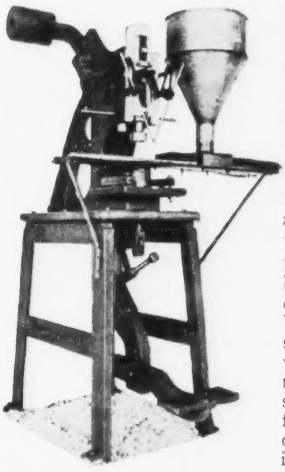
Are your packages out of date? Is this perhaps the reason for lagging sales? Of course, it is poor economy to handicap a fine product by using an old-fashioned, poorly or improperly designed container. We are experts in package design and shall be glad to consult with you on the redesigning of single items or your complete line. It will cost you nothing to find out what we can do to dress up your products for increased sales in 1935. Address Box No. 493, care *Soap.*

Wanted—Another foot power para press, good condition; Houchin preferred. Give full details. Spic & Span Co., 420 Villita St., San Antonio, Tex.

Manufacturers Attention — For sale — Royalty basis—Non-separating automobile surface cleaning solution, auto polishes, specialties, etc. Address Chemist (Inventor) Apt. 471, 50 W. 112 St., New York City.

For Sale—1 Proctor & Schwartz Soap Chip Dryer, late type, with crushing rolls; 1 Houchin-Aiken 10" Jumbo Plodder, worm drive, motor driven; 1 Dopp No. 1500 Jacketed Soap Crutcher; 1 Ralston Automatic Soap Press, belt driven. Reasonable. Address Box No. 484, care *Soap.*

Machine-Made
DEODORANT
CAKES and BLOCKS
are big sellers!



Make your deodorant and moth cakes with this heavy pressure foot press by the cold process and save money while you are increasing sales. A smooth, even cake will sell better because of its improved appearance and will cost less to make because this press not only cuts labor but saves 5% of your raw material. Why not let us make some sample cakes with your own para, naphthalene, etc., and submit complete information regarding cost and manufacturing process?

HOUCHIN MACHINERY CO., INC.
HAWTHORNE, N. J.

Boiled-Down
COTTONSEED
SOAP

"MOPCO"
BRAND
65%

New improvements now enable us to submit the above as the *best product* of its kind on the market.

If you will advise when next in the market we are certain that you will often find our *prices lower* and service more satisfactory.

We always carry large spot stocks ready for immediate deliveries.

MURRAY
OIL PRODUCTS CO.
INCORPORATED
21 WEST ST., NEW YORK

F. & S.

Quality Colors *for* TOILET SOAPS LIQUID SOAPS

TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

FEZANDIE & SPERRLE, Inc.
205 FULTON STREET
NEW YORK, N. Y.
Import—Manufacture—Export

We manufacture a complete line of high quality waxes for the jobbing trade, including no-rubbing liquid wax, regular type liquid wax, powdered wax, paste wax and also furniture polish. These products can be supplied in bulk, packaged under the Windsor label or with your own label which we supply.

WINDSOR WAX COMPANY
50 Church St. New York N.Y.
factory
611 Newark St. Hoboken, N. J.
Manufacturers of
WAX PRODUCTS EXCLUSIVELY

NRA
WE DO OUR PART

The Palmer MODE-URN DISPENSER

for Lotions, Bitters, Hair Tonic, Soap and Similar Liquids

A new dispenser—and certainly a worthy companion to the other dispensers and equipment in the big Palmer line. The Palmer MODE-URN Dispenser is of glistening black china—all metal parts chrome plated. Easily cleaned as a dish. You never expected to get such beauty, durability, and capactiy at such a surprisingly low price. Capacity twice that of any standard dispenser. Fills and dispenses from the top. No chance of leakage—no gaskets, hence no replacements. Operates with slight pressure on button—dispenses liquid with no strain on wall bracket. Easily installed. Two screws in vertical alignment permits entering screws in cement between tiles. Tamperproof—cannot be removed from wall as screws are concealed. Operating pressure does not loosen it from wall. Requires key to remove filling cap.
SAMPLE—at $1.00 prepaid, when payment accompanies order.

Palmer PRODUCTS INC
WAUKESHA, WIS.
Adjacent to Milwaukee

We manufacture a complete line of janitor and sanitary supplies, including soap-dispensing equipment of all kinds. Write for complete literature.

PYLA-ODORS

COLOR AND PERFUME IN A SINGLE OPERATION

BATH SALTS
LIQUID SOAPS
PARA BLOCKS
NAPHTHALENE

FAST COLORS
LASTING ODORS
MODERATE PRICES

▼ ▼

PYLAM PRODUCTS CO., Inc.
Mfg. Chemists, Importers, Exporters
799 GREENWICH STREET, NEW YORK CITY
CABLE ADDRESS PYLAMCO

For Sale—Spraying Machines—100 General electric motor; Overdorfer pump; 20 ft. hose and gun, complete. Sell the lot. Literature. Address Box No. 470, care *Soap*.

Soap Plant — Large modern factory, fully equipped, located in East, for sale. Will rent to responsible firm or individual. Address Box No. 472, care *Soap*.

Wanted—Established sales agent in Mexico desires to represent American manufacturer on commission basis. Covers Mexico and other parts of Central America. Knows the buyers of chemicals, soap raw materials, insecticide materials, perfume products, etc. References furnished. Correspondence in English or Spanish. Address Box No. 446 care *Soap*.

For Sale—Soap factory—South. Modern equipment. Flake—bar—powder. Operating, growing, attractive conditions. Over 1,000,000 people within radius 150 miles. Nearest competitive factory 300 miles. Terms. Address Box No. 473, care *Soap*.

Continental Can Co. is planning a three-story addition to its plant at Houston, Texas, which when completed will give Continental a complete plant at Houston for manufacture of all types of cans.

♦

A sales tax of 3 per cent on all merchandise has just been adopted by the Ohio legislature for the year 1935. As a result of enactment of the new law the present state excise tax of 10 per cent on cosmetics and toilet preparations will be suspended.

♦

Various phases of soap production were discussed by chemists of Lever Bros., Ltd., at a recent meeting of the Oil, Soap and Fat Section of the Toronto Chemical Association.

♦

Odornox Antiseptic Co., San Francisco, household and personal deodorants, has placed its advertising with Gerth-Knollin Advertising Agency, San Francisco.

♦

Dorray Laboratories, Inc., 212 West Huron Street, Ann Arbor, Mich., has been formed by Ray Vogel to manufacture chemical solutions.

♦

Directors of Continental Can Co. have elected Norton Conway a director to fill the vacancy caused by the resignation of Matthew C. Brush.

♦

The annual meeting of the Essential Oil Association of the United States was held in New York, January 8.

NEW AND REBUILT
SOAP MACHINERY

We have just purchased the equipment of a well-known New England Soap Manufacturer. Included are Soap Chip Dryer, Automatic and Foot Presses, Slabbers, Cutting Tables, Plodders, Granite Stone Mills, Mixers, Frames, Crutchers, etc. Send for complete list.

1—10" Houchin-Aiken Plodder
1—Automatic Power Cutting Table
1—Broughton Mixer, jacketed
2—10A Blanchard Mills
3—Soap Presses, Foot and Power
6—Filter Presses, sizes 6" to 36"
6—Granite Stone Mills, 2, 3, and 4 rolls
1—Proctor Soap Chip Dryer, complete
1—Jones Automatic Soap Press
4—Jacketed Vertical Crutchers
2—1,500 lb. Horizontal Crutchers
1—Hand Power Slabber.
1—Hand Power Cutting Table.
1—Houchin Chipper, Belt Drive

600 and 1,200 lb. Frames, Kettles, Pumps, Tanks, Filter Presses, Wrapping Machines, Tube Fillers, Closers, Crimpers, Dry Powder Mixers, Pulverizers, Grinders, Amalgamators, Mixers, etc.

Send for Complete List (Bulletin No. 15)
WE BUY AND SELL FROM SINGLE ITEMS TO COMPLETE PLANTS.

STEIN-BRILL CORPORATION

183 VARICK STREET — **NEW YORK, N. Y.**
Phone: WAlker 5-6892-3-4 — **Cable Address: "BRISTEN"**

Bulk—

Shampoo Bases
Liquid Soap Base
Green Soft Soaps

Liquid Shampoos
Liquid Toilet Soaps
Scrubbing Soaps

For Repacking and Jobbing 55 years' experience assures satisfaction.

GEO. A. SCHMIDT CO.
INCORPORATED
Manufacturers of SOAPS *of Every Description*
236-238 West North Avenue
Chicago

Where to buy

RAW MATERIALS AND EQUIPMENT

for the Manufacture of Soaps and Sanitary Products

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 134, for page numbers. *"Say you saw it in SOAP."*

ALKALIES

American Cyanamid & Chemical Corp.
Columbia Alkali Co.
Dow Chemical Co.
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
Solvay Sales Corp.
Stauffer Chemical Co.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

AROMATIC CHEMICALS

American-British Chemical Supplies
Budd Aromatic Chemical Co.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer, Inc.
A. C. Drury & Co.
E. I. du Pont de Nemours & Co.
Felton Chemical Co.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Merck & Co.
Monsanto Chemical Co.
Naugatuck Chemical Co.
Solvay Sales Corp.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

BULK AND PRIVATE BRAND PRODUCTS

An-Fo Manufacturing Co.
Baird & McGuire, Inc.
Clifton Chemical Co.
Davies-Young Soap Co.
Eagle Soap Corp.
Federal Varnish Co.
Fuld Bros.
Harley Soap Co.
Hysan Products Co.
Hull Co.
Koppers Products Co.
Kranich Soap Co.
New York Soap Corp.
Palmer Products
Philadelphia Quartz Co.
John Powell & Co.
Geo. A. Schmidt & Co.
Warren Soap Mfg. Co.
White Tar Co.
Windsor Wax Co.

CHEMICALS

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
Bowker Chemical Co.
Columbia Alkali Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
General Chemical Co.
Grasselli Chemical Co.
Hooker Electrochemical Co.
Industrial Chemical Sales Co.
Innis, Speiden & Co.
Mechling Bros. Chemical Co.
Merck & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Solvay Sales Corp.
Standard Silicate Co.
Stauffer Chemical Co.
Swann Chemical Co.
Jos. Turner & Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
Baird & McGuire, Inc.
Barrett Co.
Innis, Speiden & Co.
Koppers Products Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

CONTAINERS

Anchor Cap & Closure Corp. (Tubes & Bottles)
Cin-Made Corp. (Paper Cans)
Continental Can Co. (Tin Cans)
Maryland Glass Corp. (Bottles)
Metal Package Corp. (Tin Cans)
Owens-Illinois Glass Co. (Bottles, Pails and Drums)
Wilson & Bennett Mfg. Co. (Steel)

DEODORIZING BLOCK HOLDERS

Cin-Made Corp. (Paper)
Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.
Hysan Products Co.
Palmer Products, Inc.

ESSENTIAL OILS

Budd Aromatic Chemical Co.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
A. C. Drury & Co.
Fritzsche Brothers, Inc.
Leghorn Trading Co.
Magnus, Mabee & Reynard, Inc.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

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TECHNICAL CONSULTANTS

Specializing in Soaps, Disinfectants, Insecticides, Polishes, Etc.

Formula Analysis Development Testing

PEASE LABORATORIES, Inc.
Chemists, Bacteriologists, Sanitarians
39 West 38th Street
New York

Food, Drug and Cosmetic Problems—Compliance with Official Requirements—Meeting New and Anticipated Competitions with Improved and New Products

H. A. SEIL, Ph.D E. B. PUTT, Ph.C., B.Sc.
SEIL, PUTT & RUSBY, INC.
Analytical and Consulting Chemists
Specialists in the Analysis of Pyrethrum Flowers, Derris Root, Barbasco, or Cube Root—Their Concentrates and Finished Preparations
ESSENTIAL OILS SOAP
16 East 34th Street, New York, N. Y.

STILLWELL AND GLADDING, Inc.
Analytical and Consulting Chemists
Members Association of
Consulting Chemists and Chemical Engineers
130 Cedar Street New York City

LLOYD A. HALL
Analytical and Consulting Chemist
Specializing in the analysis, development, investigation, and improvement of
Soaps, Disinfectants, Cosmetics, Drugs, Polishes and Sanitary Specialties.
RESEARCH—CONSULTATION
1415 W. 37th STREET CHICAGO, ILL.

KILLING
strength of Insecticides
by PEET GRADY METHOD
(Official I. & D. code method) and
PYRETHRINS in PYRETHRUM FLOWERS
(by Gnadinger's Method)
We raised and killed more than 1 million flies in the last 2 years
ILLINOIS CHEMICAL LABORATORIES, INC.
1040 N. HALSTEAD STREET CHICAGO, ILL.

COST SYSTEMS
Designed and installed for Soap Manufacturers and allied industries. Service in—Cost Analysis—Federal Taxation—Audits and Financial Statements.
TWENTY-FIVE YEARS' EXPERIENCE
LOUIS J. MUEHLE & COMPANY
CERTIFIED PUBLIC ACCOUNTANTS
DES MOINES IOWA

Skinner & Sherman, Inc.
246 Stuart Street, Boston, Mass.
Bacteriologists and Chemists
Disinfectants tested for germicidal value or phenol coefficient by any of the recognized methods.
Research—Analyses—Tests

Entomological Testing Laboratories, Inc.
We offer you a medium for purchasing insecticides on an intelligent basis.
Entomological testing by the Peet-Grady method, and chemical examination of insecticides are available.
114 E. 32nd St. New York, N. Y.

Protect Your Products by
Patents—Trade Marks
All inventions submitted held confidential and given personal attention by members of the firm.
Form "Evidence of Conception" and instructions "How to Establish Your Rights"—Free
LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
420 Bowen Building Washington, D. C.

9:30—A company phoned that the man making up one of their products was injured and in the hospital.
11:30—One of our operating staff arrived at their plant and started production of the item, with which he was thoroughly familiar.

Foster D. Snell, Inc.
Chemists-:-Engineers
305 Washington St.,
Brooklyn, N. Y.

RAW MATERIAL AND EQUIPMENT GUIDE

(Continued from page 116)

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MACHINERY

Blanchard Machine Co. (Soap Powder)
Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Package Machinery Co. (Packaging)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Stokes & Smith Co. (Packing Machinery)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.
Stein-Brill Co.

MISCELLANEOUS

Anchor Cap & Closure Corp. (Metal Caps)
Dobbins Mfg. Co. (Pails, Mop Wringers, etc.)
General Naval Stores Co. (Pine Oil-Rosin)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Co. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants)
Pylam Products Co. (Lathering Agent)
Rohm & Haas Co. (Insecticide Base)

OILS AND FATS

Industrial Chemical Sales Co.
Leghorn Trading Co.
Murray Oil Products Co.
Newman Tallow & Soap Machinery Co.
Theobald Annual By-Products Refinery
Welch, Holme & Clark Co.
Woburn Degreasing Co.

PARADICHLORBENZENE

Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Merck & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING COMPOUNDS

Budd Aromatic Chemical Co.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer, Inc.
A. C. Drury & Co.
Felton Chemical Corp.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

PETROLEUM PRODUCTS

Anderson-Pritchard Oil Corp.
Atlantic Refining Co.
Sherwood Petroleum Co.
L. Sonneborn Sons.

PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrenthrum Extract, Derris Products

An-Fo Mfg. Co. (Extract)
W. Benkert & Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
S. B. Penick & Co.
John Powell & Co.
Sherwood Petroleum Co.

SOAP COLORS

A. C. Drury & Co.
Fezandie & Sperrle
Interstate Color Co.
Pylam Products Co.

SOAP DISPENSERS

Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.
Palmer Products

SODIUM SILICATE

American Cyanamid & Chemicals Corp.
General Chemical Co.
Grasselli Chemical Co.
Mechling Bros. Chemical Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SPRAYERS

Breuer Electric Mfg. Co.
Dobbins Mfg. Co.
Hudson Mfg. Co.
Lowell Sprayer Co.

TRI SODIUM PHOSPHATE

American Cyanamid & Chemicals Corp.
Bowker Chemical Co.
General Chemical Co.
Grasselli Chemical Co.
Swann Chemical Co.
Victor Chemical Works
Warner Chemical Co.

NEW SOAP IDEAS · INFORMATION

SOAP TRADE REVIEW

NOW more than ever, it is necessary to keep in touch with trade developments in all parts of the world. THE SOAP TRADE REVIEW is the only monthly dealing exclusively with the Soap, Perfumery and Cosmetic Industries in Great Britain It contains authoritative articles and the latest news and information of interest to those engaged in these industries.

Specimen copy posted free.
Subscription rate 12/6 per annum.

THE SOAP TRADE REVIEW
102-5 SHOE LANE, FLEET STREET
LONDON, E. C. 4

POWDERED
METAL POLISH
RADIATOR CLEANER
STOP LEAK

in bulk

●

THE HULL COMPANY
305 WASHINGTON STREET
BROOKLYN, N. Y.

When in CHICAGO
Sleep in Mountain Air
AT THE 46-STORY
MORRISON HOTEL
Madison and Clark Streets
THE CENTER OF DOWNTOWN

In the unbroken silence of a Morrison Tower room, you sleep soundly all night; yet you are only an elevator ride from the heart of the business district.

SINGLE ROOM $2.50 UP
$4.00 Double
with Bath, Servidor and Circulating Ice-Water

●

Home of
TERRACE GARDEN
and
BOSTON OYSTER HOUSE

LEONARD HICKS, *Managing Director*

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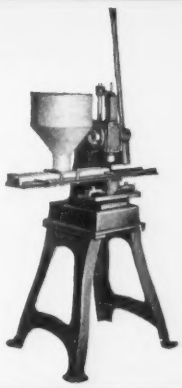
Every effort is made to keep this index free of errors, but no responsibility is assumed for any omission.

for low cost *in* para block *manufacture*

These two practical machines are all you need to produce high quality para blocks or cakes. The small machine will thoroughly mix all ingredients. The large machine will compress the mixture into any shape dies can give.

In addition, the mixer can be used on other dry products such as roach powder, cleansers, bath salts, etc. It will also give a smooth, soft and velvety texture to creams.

The hand lever press has more power than cheap foot presses. Inexperienced operators can rapidly turn out fine looking blocks. Send us some of your material and let us show you some specimen cakes. The press will save from 10% to 20% over the hot process.



HUBER MACHINE CO., 259 46th St., Brooklyn, N. Y.

Makers of Good Soap Machinery for Forty Years

COLORS

FAST GREEN FOR SOAP

FAST TO SOAP BY ANY PROCESS

Boiled

Half Boiled

Cold

Transparent or

Liquid

Proved for thirty years

W 710 BLUISH GREEN

W 709 OLIVE GREEN

A. C. DRURY & CO., INC.

International Merchants

Essential Oils—Waxes—Talc—Clay—Colors—Zinc Oxide, etc.

219 EAST NORTH WATER ST. CHICAGO

CRYS-TINTS

PERFUME and color Para Blocks and Crystals, Bath Salts and Moth Balls in one operation.

The use of Crys-Tints eliminates doubtful results for they provide uniform distribution of Odor and Color and are extremely lasting and stable.

Orange Blossom	Narcisse	Violet
New Mown Hay	Wisteria	Lilac
Carnation	Oriental	Rose
Lavender	Jasmin	Pine

½ OUNCES TO 100 LBS., RECOMMENDED

$1.50 per Lb.
Double Strength, $2.90 per Lb.
Series D—Uncolored, $ .50 per Lb.
Series E—Uncolored, $1.00 per Lb.

Compagnie Parento, Inc.

CROTON-ON-HUDSON, N.Y.

NEW YORK CITY TORONTO

MECHLING'S

SILICATE OF SODA

ESTABLISHED 1869

MECHLING BROS. CHEMICAL COMPANY

PHILADELPHIA • CAMDEN, N.J. BOSTON, MASS.

The man whose business *touches every budget in advertising*

It is evening, and under the station lights, a man with a Gladstone bag moves out toward a limited train.

Tomorrow the records, the invoices, every document and report in a great publisher's circulation office will be opened to him. Each executive, each press foreman, every newspaper boy on the streets is instructed by the publisher to give this man every bit of information he can.

The man from the Audit Bureau of Circulations!

He is employed jointly by publishers and advertisers. Commissioned by them to go into every detail of circulation—*how great* it is, *where* it is, *how it is obtained.*

Over the continent, more than sixty of these trained auditors are on the road. In almost every publication office of importance in the United States and Canada they check, compare, analyze the facts.

Publishers want this work done so that they and their competitors will all be on the same basis. Advertisers need it so that their comparison of media may be all on the same basis—so that they may *know* what their dollars buy.

What is your share, as an advertiser, in directing these auditors of the A. B. C.? Are you supporting, helping to supervise these activities which help to guard your budget?

Advertisers are urged to join the distinguished group of advertisers, agencies and publishers who make up the Audit Bureau of Circulations, and who through co-operation have taken the guesswork out of circulation buying. Write today for full facts about Bureau membership.

An advertisement by the

AUDIT BUREAU OF CIRCULATIONS

Executive Offices . . . Chicago